THE JOURNAL OF ANTIBIOTICS

An International Journal Devoted to Research on Bioactive Microbial Products

VOLUME 46

1993

JAPAN ANTIBIOTICS RESEARCH ASSOCIATION

TOKYO

Emeritus Member

EDWARD ABRAHAM (United Kingdom)
WILLIAM E. BROWN (Japan)
TOJU HATA (Japan)
SHOGO KUWAHARA (Japan)
JOSEPH LEIN (U.S.A.)
V. PRELOG (Switzerland)
GÖSTA TUNEVALL (Sweden)
SUMIO UMEZAWA (Japan)
LEO C. VINING (Canada)
MARVIN J. WEINSTEIN (U.S.A.)

Editorial Board

PAUL ACTOR (U.S.A.)
TIMM ANKE (Germany)
HATSUO AOKI (Japan)
TAKAAKI AOYAGI (Japan)
MAMORU ARAI (U.S.A.)
FEDERICO M. ARCAMONE (Italy)
JACK E. BALDWIN (United Kingdom)
TERUHIKO BEPPU (Japan)
JÁNOS BÉRDY (Hungary)
MICHEL G. BERGERON (Canada)
RICHARD W. BURG (U.S.A.)
DAVID E. CANE (U.S.A.)
CLAUDE CARBON (France)
GIUSEPPE CASSINELLI (Italy)
WALTER D. CELMER (U.S.A.)
BURTON G. CHRISTENSEN (U.S.A.)
MARTIN COLE (United Kingdom)
JOHN W. CORCORAN (U.S.A.)
PATRICE COURVALIN (France)
ERIC CUNDLIFFE (United Kingdom)
PETER J. L. DANIELS (U.S.A.)
JULIAN E. DAVIES (Canada)
ARNOLD L. DEMAIN (U.S.A.)
ALMA DIETZ (U.S.A.)
TERRENCE W. DOYLE (U.S.A.)
YURI V. DUDNIK (Russia)
BERTIL EKSTRÖM (Sweden)
TOYOSHIGE ENDO (Japan)
PRABHAVATHI B. FERNANDES (U.S.A.)
YASUO FUKAGAWA (Japan)
MARVIN GORMAN (U.S.A.)
GERALD B. GRINDEY (U.S.A.)
ROBERT L. HAMILL (U.S.A.)
C. H. HASSALL (United Kingdom)
D. J. D. HOCKENHULL (United Kingdom)
MAKOTO HORI (Japan)
KUNIMOTO HOTTA (Japan)
LIANG H. HUANG (U.S.A.)
C. R. HUTCHINSON (U.S.A.)
YOICHI IITAKA (Japan)
DAISHIRO IKEDA (Japan)
AKIRA IMADA (Japan)
SHIGEHARU INOUYE (Japan)
MASAAKI ISHIZUKA (Japan)
KIYOSHI ISONO (Japan)
ANTONIO JIMENEZ (Spain)
KATSUMI KAKINUMA (Japan)
EDWARD KATZ (U.S.A.)
A. S. KHOKHLOV (Russia)
SHINICHI KONDO (Japan)
MASATAKA KONISHI (Japan)
DAVID P. LABEDA (U.S.A.)
GIANCARLO C. LANCINI (Italy)
FRANÇOIS LE GOFFIC (France)
CHAO-MIN LIU (U.S.A.)
GABOR LUKACS (France)
KENJI MAEDA (Japan)
HUBERT MAEHR (U.S.A.)
ALAN K. MALLAMS (U.S.A.)
VINCENT P. MARSHALL (U.S.A.)
JUAN-FRANCISCO MARTÍN (Spain)
JAMES B. MCALPINE (U.S.A.)
GEORGE H. MILLER (U.S.A.)
LESTER A. MITSCHER (U.S.A.)
ROBERT B. MORIN (U.S.A.)
RAMAKRISHNAN NAGARAJAN (U.S.A.)
SHOSHIRO NAKAMURA (Japan)
CLAUDE H. NASH, III (U.S.A.)
S. M. NAVASHIN (Russia)
LOUIS J. NISBET (United Kingdom)
KAZUO NITTA (Japan)
MASAJI OHNO (Japan)
YOSHIRO OKAMI (Japan)
MASANORI OKANISHI (Japan)
SATOSHI ŌMURA (Japan)
NOBORU ŌTAKE (Japan)
RAMESH C. PANDEY (U.S.A.)
FRANCESCO PARENTI (Italy)
WILLIAM L. PARKER (U.S.A.)
IAIN C. PAUL (U.S.A.)
ANDRE G. PERNET (U.S.A.)
ETTORE PERRONE (Italy)
HEINRICH H. PETER (Switzerland)
A. V. RAMA RAO (India)
HANS REICHENBACH (Germany)
RODNEY W. RICKARDS (Australia)
KENNETH L. RINEHART (U.S.A.)
CARL P. SCHAFFNER (U.S.A.)
ELMAR SCHRINNER (Germany)
FRANK C. SCIAVOLINO (U.S.A.)
HARUO SETO (Japan)
MARCIA C. E. SHEARER (U.S.A.)
ROBERT SOUTHGATE (United Kingdom)
EDWARD O. STAPLEY (U.S.A.)
MATTHEW SUFFNESS (U.S.A.)
RICHARD B. SYKES (United Kingdom)
FERENC J. SZTARICSKAI (Hungary)
TOMIO TAKEUCHI (Japan)
TOMOHISA TAKITA (Japan)
NOBUO TANAKA (Japan)
KUNIAKI TATSUTA (Japan)
RAYMOND T. TESTA (U.S.A.)
M. J. THIRUMALACHAR (U.S.A.)
FUSAO TOMITA (Japan)
TSUTOMU TSUCHIYA (Japan)
SHIGERU TSUKAGOSHI (Japan)
ZDENKO VANĚK (Czechoslovakia)
CLAUDE VÉZINA (Canada)
WELF VON DAEHNE (Denmark)
J. A. WAITZ (U.S.A.)
STEPHEN G. WALEY (United Kingdom)
JERRY A. WEISBACH (U.S.A.)
JOHN W. WESTLEY (U.S.A.)
DAVID R. WHITE (U.S.A.)
RICHARD J. WHITE (U.S.A.)
DUDLEY H. WILLIAMS (United Kingdom)
HIDEYO YAMAGUCHI (Japan)
TADASHI YOSHIDA (Japan)
HANS ZÄHNER (Germany)
OTOKAR ZAK (Switzerland)
CHUN-NIAN ZHANG (China)

Managing Editor MORIMASA YAGISAWA (Japan)

Index to Page

Page	No.	Month	Page	No.	Month	Page	No.	Month
1 ~ 206	1	January	705 ~ 874	5	May	1327 ~ 1483	9	September
207 ~ 365	2	February	875 ~ 1037	6	June	1485 ~ 1632	10	October
367 ~ 534	3	March	1039 ~ 1180	7	July	1633 ~ 1774	11	November
545 ~ 703	4	April	1181 ~ 1325	8	August	1775 ~ 1922	12	December

THE JOURNAL OF ANTIBIOTICS

An International Journal Devoted to
Research on Bioactive Microbial Products

Volume 46

CONTENTS

Review Article

Screening microbial metabolites for new drugs—theoretical and practical issues.
GEORGE G. YARBROUGH, DEAN P. TAYLOR, ROBERT T. ROWLANDS, MARK S. CRAWFORD & LINDA L. LASURE ..... (4): 535~544

Structure-activity relationships of vancomycin-type glycopeptide antibiotics.
R. NAGARAJAN ..... (8): 1181~1195

NEW AGENTS SECTION

BIOLOGICALLY ACTIVE MICROBIAL PRODUCTS

A new neuritogenetic compound BU-4514N produced by *Microtetraspora* sp.
SOICHIRO TODA, SATOSHI YAMAMOTO, OSAMU TENMYO, TAKASHI TSUNO, TOSHIFUMI HASEGAWA, MARY ROSSER, MASAHISA OKA, YOSUKE SAWADA, MASATAKA KONISHI & TOSHIKAZU OKI ..... (6): 875~883

Anthrotainin, an inhibitor of substance P binding produced by *Gliocladium catenulatum*.
SUI-MING WONG, RUDOLPH KULLNIG, JONAS DEDINAS, KENNETH C. APPELL, GWENDOLYN C. KYDD, AMANDA M. GILLUM, RAYMOND COOPER & RICHARD MOORE ..... (2): 214~221

Fiscalins: New substance P inhibitors produced by the fungus *Neosartorya fischeri*. Taxonomy, fermentation, structures, and biological properties.
SUI-MING WONG, LASZLO L. MUSZA, GWENDOLYN C. KYDD, RUDY KULLNIG, AMANDA M. GILLUM & RAYMOND COOPER ..... (4): 545~553

Tetronothiodin, a novel cholecystokinin type-B receptor antagonist produced by *Streptomyces* sp. NR0489.
I. Taxonomy, yield improvement and fermentation.
JUNKO WATANABE, NORIKO FUJISAKI, KUMIKO FUJIMORI, YOJIRO ANZAI, SHOICHI OSHIMA, TAKASHI SANO, TATSUO OHTSUKA, KIMIHIRO WATANABE & TORU OKUDA ..... (1): 1~10

Tetronothiodin, a novel cholecystokinin type-B receptor antagonist produced by *Streptomyces* sp. NR0489.
II. Isolation, characterization and biological activities.
TATSUO OHTSUKA, HIROMICHI KOTAKI, NOBORU NAKAYAMA, YOSHIKO ITEZONO, NOBUO SHIMMA, TSUTOMU KUDOH, TOSHIKAZU KUWAHARA, MIKIO ARISAWA, KAZUTERU YOKOSE & HAURO SETO ..... (1): 11~17

MS-347a, a new inhibitor of myosin light chain kinase from *Aspergillus* sp. KY52178.
SATOSHI NAKANISHI, KATSUHIKO ANDO, ISAO KAWAMOTO & YUZURU MATSUDA ..... (12): 1775~1781

SCH45752—An inhibitor of calmodulin-sensitive cyclic nucleotide phosphodiesterase activity.
V. R. HEGDE, J. R. MILLER, M. G. PATEL, A. H. KING, M. S. PUAR, A. HORAN, R. HART, R. YARBOROUGH & V. GULLO ..... (2): 207~213

Metabolic products of microorganisms. 268. Obscurolides, a novel class of phosphodiesterase inhibitors from streptomyces. II. Minor components belonging to the obscurolide B to D series.
MICHAEL RITZAU, SIEGRID PHILIPPS, AXEL ZEECK, HUBERT HOFF & HANS ZÄHNER ..... (10): 1625~1628

Adenophostins A and B: Potent agonists of inositol-1,4,5-trisphosphate receptor produced by *Penicillium brevicompactum*. Taxonomy, fermentation, isolation, physico-chemical and biological properties.

Masaaki Takahashi, Takeshi Kagasaki, Tsuyoshi Hosoya & Shuji Takahashi ..... (11): 1643～1647

Aquastatin A, an inhibitor of mammalian adenosine triphosphatases from *Fusarium aquaeductuum*. Taxonomy, fermentation, isolation, structure determination and biological properties.
Kiyoshi Hamano, Masako Kinoshita-Okami, Katsuhiro Minagawa, Hideyuki Haruyama, Takeshi Kinoshita, Tsuyoshi Hosoya, Kouhei Furuya, Kazuya Kinoshita, Keiichi Tabata, Astuko Hemmi & Kazuhiko Tanzawa ..... (11): 1648～1657

Thiazohalostatin, a new cytoprotective substance produced by *Actinomadura*. I. Taxonomy, production, isolation and biological activities.
Yuji Yamagishi, Michiko Matsuoka, Atsuo Odagawa, Shinichiro Kato, Kazutoshi Shindo & Junichiro Mochizuki ..... (11): 1633～1637

Rumbrin, a new cytoprotective substance produced by *Auxarthron umbrinum*. I. Taxonomy, production, isolation and biological activities.
Yuji Yamagishi, Michiko Matsuoka, Atsuo Odagawa, Shinichiro Kato, Kazutoshi Shindo & Junichiro Mochizuki ..... (6): 884～887

Pyrrolostatin, a novel lipid peroxidation inhibitor from *Streptomyces chrestomyceticus*. Taxonomy, fermentation, isolation, structure elucidation and biological properties.
Shinichiro Kato, Kazutoshi Shindo, Hiroyuki Kawai, Atsuo Odagawa, Michiko Matsuoka & Junichiro Mochizuki ..... (6): 892～899

Phenazoviridin, a novel free radical scavenger from *Streptomyces* sp. Taxonomy, fermentation, isolation, structure elucidation and biological properties.
Shinichiro Kato, Kazutoshi Shindo, Yuji Yamagishi, Michiko Matsuoka, Hiroyuki Kawai & Junichiro Mochizuki ..... (10): 1485～1493

Studies on free radical scavenging substances from microorganisms. III. Isolation and structural elucidation of a novel free radical scavenger, resorstatin.
Shinichiro Kato, Kazutoshi Shindo, Hiroyuki Kawai, Michiko Matsuoka & Junichiro Mochizuki ..... (6): 1024～1026

Benastatins C and D, new inhibitors of glutathione *S*-transferase, produced by *Streptomyces* sp. MI384-DF12. Production, isolation, structure determination and biological activities.
Takayuki Aoyama, Fukiko Kojima, Tadao Yamazaki, Tochiro Tatee, Fuminori Abe, Yasuhiko Muraoka, Hiroshi Naganawa, Takaaki Aoyagi & Tomio Takeuchi ..... (5): 712～718

Bequinostatins A and B, new inhibitors of glutathione *S*-transferase, produced by *Streptomyces* sp. MI384-DF12. Production, isolation, structure determination and biological activities.
Takayuki Aoyama, Fukiko Kojima, Fuminori Abe, Yasuhiko muraoka, Hiroshi Naganawa, Tomio Takeuchi & Takaaki Aoyagi ..... (6): 914～920

Bequinostatins C and D, new inhibitors of glutathione *S*-transferase, produced by *Streptomyces* sp. MI384-DF12.
Tadao Yamazaki, Tochiro Tatee, Takayuki Aoyama, Fukiko Kojima, Takaaki Aoyagi & Tomio Takeuchi ..... (8): 1309～1311

Cysfluoretin, a new inhibitor of glutathione *S*-transferase, produced by *Streptomyces* sp. MI384-DF12.
Takayuki Aoyama, Wenjie Zhao, Fukiko Kojima, Yasuhiko Muraoka, Hiroshi Naganawa, Tomio Takeuchi & Takaaki Aoyagi ..... (9): 1471～1475

R1128 substances, novel non-steroidal estrogen-receptor antagonists produced by a *Streptomyces*. I. Taxonomy, fermentation, isolation and biological properties.
Yasuhiro Hori, Yukiko Abe, Masami Ezaki, Toshio Goto, Masakuni Okuhara & Masanobu Kohsaka ..... (7): 1055～1062

Napyradiomycins A and B1: Non-steroidal estrogen-receptor antagonists produced by a *Streptomyces*.
Yasuhiro Hori, Yukiko Abe, Nobuharu Shigematsu, Toshio Goto, Masakuni Okuhara & Masanobu Kohsaka ..... (12): 1890～1893

WS9761 A and B: New non-steroidal androgen-receptor antagonists produced by a *Streptomyces*.
Yasuhiro Hori, Yukiko Abe, Hidenori Nakajima, Nobuharu Shigematsu, Shigehiro Takase, Toshio Goto, Masakuni Okuhara & Masanobu Kohsaka ..... (12): 1901～1903

FR901277, a novel inhibitor of human leukocyte elastase from *Streptomyces resistomycificus*. Producing organism, fermentation, isolation, physico-chemical and biological properties.
Keiko Fujie, Yasuhiko Shinguh, Hiroshi Hatanaka, Nobuharu Shigematsu, Hidetsugu Murai, Takashi Fujita, Michio Yamashita, Masanori Okamoto & Masakuni Okuhara ..... (6): 908～913

Epocarbazolins A and B, novel 5-lipoxygenase inhibitors. Taxonomy, fermentation, isolation,

structures and biological activities.
YOSHIMI NIHEI, HARUAKI YAMAMOTO, MASAMI HASEGAWA, MINORU HANADA, YASUO FUKAGAWA & TOSHIKAZU OKI ..... (1): 25~33
5-Hydroxyanthranilic acid derivatives as potent 5-lipoxygenase inhibitors.
HIROAKI OHKUMA, KOJI TOMITA, YUTAKA HOSHINO, KIYOSHI SUZUKI, MASAMI HASEGAWA, YOSUKE SAWADA, MASATAKA KONISHI, DEREK J. HOOK & TOSHIKAZU OKI ..... (5): 705~711
Lagunamycin, a novel 5-lipoxygenase inhibitor. I. Taxonomy, fermentation, physico-chemical properties and biological characteristics.
YOSHIMI NIHEI, MASAMI HASEGAWA, KIYOSHI SUZUKI, SATOSHI YAMAMOTO, MINORU HANADA, TAMOTSU FURUMAI, YASUO FUKAGAWA & TOSHIKAZU OKI ..... (6): 900~907
Nitrosoxacins A, B and C, new 5-lipoxygenase inhibitors.
MAKI NISHIO, MASAMI HASEGAWA, KIYOSHI SUZUKI, YOSUKE SAWADA, DEREK J. HOOK & TOSHIKAZU OKI ..... (1): 193~195
Zincphyrin, a novel coproporphyrin III with zinc from *Streptomyces* sp.
MINORU TORIYA, SATOSHI YAGINUMA, SAKAE MUROFUSHI, KIYOSHI OGAWA, NAOKI MUTO, MITSUO HAYASHI & KAZUHIKO MATSUMOTO ..... (1): 196~200
A novel class of platelet activating factor antagonists from *Phoma* sp.
MIN CHU, IMBI TRUUMEES, IJI GUNNARSSON, W. ROBERT BISHOP, WILLIAM KREUTNER, ANN C. HORAN, MAHESH G. PATEL, VINCENT P. GULLO & MOHINDAR S. PUAR ..... (4): 554~563
Tetrafibricin, a novel fibrinogen receptor antagonist. I. Taxonomy, fermentation, isolation, characterization and biological activities.
TSUTOMU KAMIYAMA, TAKAYUKI UMINO, NORIKO FUJISAKI, KUMIKO FUJIMORI, TOMOKO SATOH, YUKO YAMASHITA, SHOICHI OHSHIMA, JUNKO WATANABE & KAZUTERU YOKOSE ..... (7): 1039~1046
Chrysosporin, a new inhibitor of 3-hydroxy-3-methylglutaryl coenzyme A reductase produced by *Chrysosporium pannorum*.
JONG KOO PARK, KAORU SAKAKI, HARUO OGAWA, KEIJI HASUMI & AKIRA ENDO ..... (7): 1170~1172
Pyripyropenes, highly potent inhibitors of acyl-CoA:cholesterol acyltransferase produced by *Aspergillus fumigatus*.
SATOSHI ŌMURA, HIROSHI TOMODA, YOUNG KOOK KIM & HIROYUKI NISHIDA ..... (7): 1168~1169
AS-183, a novel inhibitor of acyl-CoA:cholesterol acyltransferase produced by *Scedosporium* sp. SPC-15549.
KAZUTOSHI KURODA, MAYUMI YOSHIDA, YOUICHI UOSAKI, KATSUHIKO ANDO, ISAO KAWAMOTO, EIKO OISHI, HIROKI ONUMA, KOJI YAMADA & YUZURU MATSUDA ..... (8): 1196~1202
Lateritin, a new inhibitor of acyl-CoA:cholesterol acyltransferase produced by *Gibberella lateritium* IFO 7188.
KEIJI HASUMI, CHIKARA SHINOHARA, TAKASHI IWANAGA & AKIRA ENDO ..... (12): 1782~1787
New inhibitors of melanogenesis, OH-3984 K1 and K2. I. Taxonomy, fermentation, isolation and biological characteristics.
KANKI KOMIYAMA, SATOSHI TAKAMATSU, YŌKO TAKAHASHI, MAYUMI SHINOSE, MASAHIKO HAYASHI, HARUO TANAKA, YUZURU IWAI, SATOSHI ŌMURA & GENJI IMOKAWA ..... (10): 1520~1525
Delaminomycins, novel nonpeptide extracellular matrix receptor antagonist and a new class of potent immunomodulator. I. Taxonomy, fermentation, isolation and biological activity.
MITSUHIRO UENO, MASAHIDE AMEMIYA, MASATOMI IIJIMA, MICHIYO OSONO, TORU MASUDA, NAOKO KINOSHITA, TAKAKO IKEDA, HIRONOBU IINUMA, MASA HAMADA, MASAAKI ISHIZUKA & TOMIO TAKEUCHI ..... (5): 719~727
Oligomycin F, a new immunosuppressive homologue of oligomycin A.
HARTMUT LAATSCH, MICHAEL KELLNER, GERHARD WOLF, YONG-SE LEE, FRITZ HANSSKE, SILVIA KONETSCHNY-RAPP, ULRICH PESSARA, WERNER SCHEUER & HUBERTUS STOCKINGER ..(9): 1334~1341
IC101, extracellular matrix antagonist produced by *Streptomyces* sp. MJ202-72F3. Production, isolation, structure determination and biological activity.
MITSUHIRO UENO, MASAHIDE AMEMIYA, TETSUYA SOMENO, TORU MASUDA, HIRONOBU IINUMA, HIROSHI NAGANAWA, MASA HAMADA, MASAAKI ISHIZUKA & TOMIO TAKEUCHI ..... (11): 1658~1665
FR901459, a novel immunosuppressant isolated from *Stachybotrys chartarum* No. 19392. Taxonomy of the producing organism, fermentation, isolation, physico-chemical properties and biological activities.

Kazutoshi Sakamoto, Eisaku Tsujii, Michiyo Miyauchi, Tomoko Nakanishi, Michio Yamashita, Nobuharu Shigematsu, Toshiharu Tada, Shizue Izumi & Masakuni Okuhara ..... (12): 1788~1798

Novel microbial metabolites of the phoslactomycins family induced production of colony-stimulating factors by bone marrow stromal cells. I. Taxonomy, fermentation and biological properties.
Takafumi Kohama, Ryuzo Enokita, Takao Okazaki, Hiroko Miyaoka, Akio Torikata, Masatoshi Inukai, Isao Kaneko, Takeshi Kagasaki, Yoshiharu Sakaida, Akira Satoh & Akio Shiraishi ..... (10): 1503~1511

Novel microbial metabolites of the phoslactomycins family induce production of colony-stimulating factors by bone marrow stromal cells. II. Isolation, physico-chemical properties and structure determination.
Takafumi Kohama, Takemichi Nakamura, Takeshi Kinoshita, Isao Kaneko & Akio Shiraishi ..... (10): 1512~1519

ANTI-CANCER SUBSTANCES

WS1279, a novel lipopeptide isolated from *Streptomyces willmorei*. Fermentation, isolation and physico-chemical properties.
Miho Tanaka, Yasuhiro Hori, Hirotsugu Ueda, Masami Ezaki, Toshio Goto, Masashi Hashimoto & Masakuni Okuhara ..... (5): 858~860

Leptolstatin from *Streptomyces* sp. SAM1595, a new gap phase-specific inhibitor of the mammalian cell cycle. I. Screening, taxonomy, purification and biological activities.
Keiichi Abe, Minoru Yoshida, Sueharu Horinouchi & Teruhiko Beppu ..... (5): 728~734

Dephostatin, a novel protein tyrosine phosphatase inhibitor produced by *Streptomyces*. I. Taxonomy, isolation, and characterization.
Masaya Imoto, Hideaki Kakeya, Tsutomu Sawa, Chigusa Hayashi, Masa Hamada, Tomio Takeuchi & Kazuo Umezawa ..... (9): 1342~1346

Isolation and structure determination of novel phosphatidylinositol turnover inhibitors, piericidin B_5 and B_5 *N*-oxide, from *Streptomyces* sp.
Hiroshi Nishioka, Tsutomu Sawa, Yoshikazu Takahashi, Hiroshi Naganawa, Masa Hamada, Tomio Takeuchi & Kazuo Umezawa ..... (4): 564~568

UCE6, a new antitumor antiboitic with topoisomerase I mediated DNA cleavage activity, from actinomycetes.
Noboru Fujii, Yoshinori Yamashita, Shigeru Chiba, Youichi Uosaki, Yutaka Saitoh, Yukari Tuji & Hirofumi Nayano ..... (7): 1173~1174

A new antibiotic, structurally related to leptomycin A, flattens the morphology of v-*ras*^{ts} NRK cells.
Nobuo Hosokawa, Hironobu Iinuma, Hiroshi Naganawa, Masa Hamada, Tomio Takeuchi, Taichi Itoh & Makoto Hori ..... (4): 676~678

Pepticinnamins, new farnesyl-protein transferase inhibitors produced by an actinomycete. I. Producing strain, fermentation, isolation and biological activity.
Satoshi Ōmura, Didier Van Der Pyl, Junji Inokoshi, Yoko Takahashi & Hideo Takeshima ..... (2): 222~228

TAN-1120, a new anthracycline with potent angiostatic activity.
Yukimasa Nozaki, Tsuneaki Hida, Shigemi Iinuma, Takafumi Ishii, Katsuichi Sudo, Masayuki Muroi & Tsuneo Kanamaru ..... (4): 569~579

5-*N*-Acetylardeemin, a novel heterocyclic compound which reverses multiple drug resistance in tumor cells. I. Taxonomy and fermentation of the producing organism and biological activity.
James P. Karwowski, Marianna Jackson, Ronald R. Rasmussen, Patrick E. Humphrey, Jennifer B. Poddig, William L. Kohl, H. Scherr, Sunil Kadam & James B. McAlpine ..... (3): 374~379

5-*N*-Acetylardeemin, a novel heterocyclic compound which reverses multiple durg resistance in tumor cells. II. Isolation and elucidation of the structure of 5-*N*-acetylardeemin and two congeners.
Jill E. Hochlowski, Mark M. Mullally, Stephen G. Spanton, David N. Whittern, Preston Hill & James B. McAlpine ..... (3): 380~386

PC-766B, a new macrolide antibiotic produced by *Nocardia brasiliensis*. I. Taxonomy, fermentation and biological activity.
Kazuo Kumagai, Kiyoshi Taya, Akio Fukui, Masatomo Fukasawa, Masaru Fukui &

Shigeyasu Nabeshima ..... (6): 972~978
PC-766B, a new macrolide antibiotic produced by *Nocardia brasiliensis*. II. Isolation, physico-chemical properties and structure elucidation.
Kazuo Kumagai, Akio Fukui, Shin Tanaka, Masahiko Ikemoto, Koichi Moriguchi & Shigeyasu Nabeshima ..... (7): 1139~1144
Eupenifeldin, a novel cytotoxic bistropolone from *Eupenicillium brefeldianum*.
Friedrich Mayerl, Qi Gao, Stella Huang, Steven E. Klohr, James A. Matson, Donald R. Gustavson, Dolores M. Pirnik, Ronald L. Berry, Craig Fairchild & William C. Rose ..... (7): 1082~1088
Quinolidomicins A_1, A_2 and B_1, novel 60-membered macrolide antibiotics. I. Taxonomy, fermentation, isolation, physico-chemical properties and biological activity.
Yoichi Hayakawa, Michiko Matsuoka, Kazuo Shin-ya & Haruo Seto ..... (10): 1557~1562
RK-397, a new oxo pentaene antiobiotic.
Kimie Kobinata, Hiroyuki Koshino, Takuji Kudo, Kiyoshi Isono & Hiroyuki Osada ..... (10): 1616~1618
Nisamycin, a new manumycin group antibiotic from *Streptomyces* sp. K106.
Ken-ichiro Hayashi, Masahira Nakagawa, Tomoyuki Fujita, Shinji Tanimori & Mitsuru Nakayama ..... (12): 1904~1907
Antibiotic AC6H, a new component of tetrocarcin group antibiotics.
Kumiko W. Shimotohno, Toyoshige Endō & Kazuo Furihata ..... (4): 682~684
Novel antitumor antibiotics, saptomycins. I. Taxonomy of the producing organism, fermentation, HPLC analysis and biological activities.
Naoki Abe, Yasukazu Nakakita, Takehiko Nakamura, Nobuyasu Enoki, Hideaki Uchida & Masanobu Munekata ..... (10): 1530~1535
Novel antitumor antibiotics, saptomycins. II. Isolation, physico-chemical properties and structure elucidation.
Naoki Abe, Nobuyasu Enoki, Yasukazu Nakakita, Hideaki Uchida, Takehiko Nakamura & Masanobu Munekata ..... (10): 1536~1549
A novel compound related to chartreusin from a mutant of *Streptomyces chartreusis*.
Hideaki Uchida, Yasukazu Nakakita, Nobuyasu Enoki, Naoki Abe, Takehiko Nakamura & Masanobu Munekata ..... (10): 1611~1615
Respinomycins A1, A2, B, C and D, a novel group of anthracycline antibiotics. I. Taxonomy, fermentation, isolation and biological activities.
Makoto Ubukata, Hiroyuki Osada, Takuji Kudo & Kiyoshi Isono ..... (6): 936~941
Anthracycline metabolites from baumycin-producing *Streptomyces* sp. D788. II. New anthracycline metabolites produced by a blocked mutant strain RPM-5.
Akihiro Yoshimoto, Shizuka Fujii, Osamu Johdo, Katsuro Kubo, Hiroshi Nishida, Rokuro Okamoto & Tomio Takeuchi ..... (1): 56~64
Anthracycline metabolites from baumycin-producing *Streptomyces* sp. D788. III. New anthracycline metabolites produced by blocked mutants 4L-660 and YDK-18.
Akihiro Yoshimoto, Osamu Johdo, Hiroshi Nishida, Rokuro Okamoto & Tomio Takeuchi ..... (11): 1758~1761
Novel cytocidal compounds, oxopropalines from *Streptomyces* sp. G324 producing lavendamycin. I. Taxonomy of the producing organism, fermentation, isolation and biological activities.
Naoki Abe, Yasukazu Nakakita, Takehiko Nakamura, Nobuyasu Enoki, Hideaki Uchida, Suguru Takeo & Masanobu Munekata ..... (11): 1672~1677
Aspochalasin E, a new antibiotic isolated from a fungus.
Nobuaki Naruse, Haruaki Yamamoto, Shinji Murata, Yosuke Sawada, Yasuo Fukagawa & Toshikazu Oki ..... (4): 679~681
Rhizopodin, a new compound from *Myxococcus stipitatus* (myxobacteria) causes formation of rhizopodia-like structures in animal cell cultures. Production, isolation, physico-chemical and biological properties.
Florenz Sasse, Heinrich Steinmetz, Gerhard Höfle & Hans Reichenbach ..... (5): 741~748
Verucopeptin, a new antitumor antibiotic active against B16 melanoma. I. Taxonomy, production, isolation, physico-chemical properties and biological activity.
Yuji Nishiyama, Koko Sugawara, Koji Tomita, Haruaki Yamamoto, Hideo Kamei & Toshikazu Oki ..... (6): 921~928

Vicenistatin, a novel 20-membered macrocyclic lactam antitumor antibiotic.
Kazutoshi Shindo, Masaru Kamishohara, Atsuo Odagawa, Michiko Matsuoka & Hiroyuki Kawai ..... (7): 1076～1081
UK-1, a novel cytotoxic metabolite from *Streptomyces* sp. 517-02. I. Taxonomy, fermentation, isolation, physico-chemical and biological properties.
Masashi Ueki, Keiichi Ueno, Shinji Miyadoh, Keiichi Abe, Kozo Shibata, Makoto Taniguchi & Susumu Oi ..... (7): 1089～1094
Anisomycin and new congeners active against human tumor cell lines.
Yoshiko Hosoya, Toshiyuki Kameyama, Hiroshi Naganawa, Yoshiro Okami & Tomio Takeuchi ..... (8): 1300～1302
UCA1064-B, a new antitumor antibiotic isolated from *Wallemia sebi*: Production, isolation and structural determination.
Isami Takahashi, Risa Maruta, Katsuhiko Ando, Mayumi Yoshida, Toshio Iwasaki, Junji Kanazawa, Masami Okabe & Tatsuya Tamaoki ..... (8): 1312～1314
A new antitumor substance, BE-18591, produced by a streptomycete. I. Fermentation, isolation, physico-chemical and biological properties.
Katsuhisa Kojiri, Shigeru Nakajima, Hajime Suzuki, Akira Okura & Hiroyuki Suda ..... (12): 1799～1803
A new antibiotic, cypemycin. Taxonomy, fermentation, isolation and biological characteristics.
Kanki Komiyama, Kazuhiko Otoguro, Toshiaki Segawa, Kazuro Shiomi, Hong Yang, Yoko Takahashi, Masahiko Hayashi, Toshio Otani & Satoshi Ōmura ..... (11): 1666～1671

ANTI-HIV AND OTHER ANTIVIRAL SUBSTANCES

Mer-N5075A, a potential HIV-1 protease inhibitor, produced by *Streptomyces chromofuscus*.
Rei Kaneto, Hiroyuki Chiba, Kazuyuki Dobashi, Ikuo Kojima, Kazuya Sasaki, Norio Shibamoto, Hiroshi Nishida, Rokurou Okamoto, Hisayoshi Akagawa & Satoshi Mizuno ..... (10): 1622～1624
Isochromophilones I and II, novel inhibitors against gp120-CD4 binding from *Penicillium* sp.
Satoshi Ōmura, Haruo Tanaka, Keiichi Matsuzaki, Hodaka Ikeda & Rokuro Masuma ..... (12): 1908～1911
Thiangazole, a new thiazoline antibiotic from *Polyangium* sp. (myxobacteria): Production, antimicrobial activity and mechanism of action.
Brigitte Kunze, Rolf Jansen, Lutz Pridzun, Elke Jurkiewicz, Gerhard Hunsmann, Gerhard Höfle & Hans Reichenbach ..... (11): 1752～1755
Isolation of RP 71955, a new anti-HIV-1 peptide secondary metabolite.
Gerard Helynck, Catherine Dubertret, Jean-Francois Mayaux & Jean Leboul ..... (11): 1756～1757
Terpestacin, a new syncytium formation inhibitor from *Arthrinium* sp.
Masahisa Oka, Seiji Iimura, Osamu Tenmyo, Yosuke Sawada, Masaru Sugawara, Noriyuki Ohkusa, Haruaki Yamamoto, Kimio Kawano, Shiu-Lok Hu, Yasuo Fukagara & Toshikazu Oki ..... (3): 367～373
Pradimicins FS and FB, new pradimicin analogs: Directed production, structures and biological activities.
Kyoichiro Saitoh, Kiyoshi Suzuki, Minoru Hirano, Tamotsu Furumai & Toshikazu Oki ..... (3): 398～405
Pradimicin S, a new pradimicin analog. II. Isolation and structure elucidation.
Kyoichiro Saitoh, Takashi Tsuno, Masatoshi Kakushima, Masami Hatori, Tamotsu Furumai & Toshikazu Oki ..... (3): 406～411
Pradimicin S, a new pradimicin analog. I. Taxonomy, fermentation and biological activities.
Kyoichiro Saitoh, Osamu Tenmyo, Satoshi Yamamoto, Tamotsu Furumai & Toshikazu Oki ..... (4): 580～588
New antiviral antibiotics, kistamicins A and B. I. Taxonomy, production, isolation, physico-chemical properties and biological activities.
Nobuaki Naruse, Osamu Tenmyo, Seikichi Kobaru, Masami Hatori, Koji Tomita, Yasutaro Hamagishi & Toshikazu Oki ..... (12): 1804～1811

ANTIFUNGAL SUBSTANCES

β-Cyanoglutamic acid, a new antifungal amino acid from a streptomycete.
NOBUAKI NARUSE, SATOSHI YAMAMOTO, HARUAKI YAMAMOTO, SHOICHIRO KONDO, SHINJI MASUYOSHI, KEI-ICHI NUMATA, YASUO FUKAGAWA & TOSHIKAZU OKI ..... (4): 685~686

Isolation, structures, and antifungal activities of new aureobasidins.
YOSHIE YOSHIKAWA, KATSUSHIGE IKAI, YOSHIHISA UMEDA, ATSUKO OGAWA, KAZUTOH TAKESAKO, IKUNOSHIN KATO & HIROSHI NAGANAWA ..... (9): 1347~1354

BU-3794F, a new β-1,3-glucan synthase inhibitor.
MIKA AOKI, TSUTOMU ANDOH, TOMOKAZU UEKI, SHINJI MASUYOSHI, KOKO SUGAWARA & TOSHIKAZU OKI ..... (6): 952~960

Mer-WF3010, a new member of the papulacandin family. I. Fermentation, isolation and characterization.
REI KANETO, HIROYUKI CHIBA, HITOSI AGEMATSU, NORIO SHIBAMOTO, TAKEO YOSHIOKA, HIROSHI NISHIDA & ROKURO OKAMOTO ..... (2): 247~250

Dactylfungins, novel antifungal antibiotics produced by *Dactylaria parvispora*.
JIN-ZHONG XAIO, SHIGENORI KUMAZAWA, NOBUJI YOSHIKAWA, TAKASHI MIKAWA & YOSHIKAZU SATO ..... (1): 48~55

Xanthofusin, an antifungal tetronic acid from *Fusicoccum* sp.: Production, isolation and structure.
JENS BREINHOLT, HELLE DEMUTH, LENE LANGE, ANDERS KJÆR & CHRISTIAN PEDERSEN ..... (6): 1013~1015

Antifungal macrocyclic polylactones from *Penicillium verruculosum*.
JENS BREINHOLT, GEORG W. JENSEN, RUBY I. NIELSEN, CARL E. OLSEN & JENS C. FRISVAD ..... (7): 1101~1108

Isolation and characterization of a new antibiotic, malolactomycin A.
KIMIE KOBINATA, HIROYUKI KOSHINO, HIROO KUSAKABE, YUMIKO KOBAYASHI, ISAMU YAMAGUCHI, KIYOSHI ISONO & HIROYUKI OSADA ..... (12): 7070~0000

Rousselianone A, novel antibiotic related to phenalenone produced by *Phaeosphaeria rousseliana*.
JIN-ZHONG XIAO, SHIGENORI KUMAZAWA, HIROFUMI TOMITA, NOBUJI YOSHIKAWA, CHIZUKO KIMURA & TAKASHI MIKAWA ..... (10): 1570~1574

A novel macrolactam-disaccharide antifungal antibiotic. Taxonomy, fermentation, isolation, physico-chemical properties, structure elucidation and biological activity.
VINOD R. HEGDE, MAHESH G. PATEL, VINCENT P. GULLO, ANN C. HORAN, ARTHUR H. KING, FRANK GENTILE, G. H. WAGMAN, M. S. PUAR & DAVID LOEBENBERG ..... (7): 1109~1115

BU-4704, a new member of the xanthocillin class.
MITSUAKI TSUNAKAWA, NORIYUKI OHKUSA, SEIKICHI KOBARU, YUKIO NARITA, SHINJI MURATA, YOSUKE SAWADA & TOSHIKAZU OKI ..... (4): 687~688

Sch 47554 and Sch 47555, two novel antifungal antibiotics produced from a *Streptomyces* sp.
M. CHU, R. YARBOROUGH, J. SCHWARTZ, M. G. PATEL, A. C. HORAN, V. P. GULLO, P. R. DAS & M. S. PUAR ..... (5): 861~865

A novel quinone antibiotic from *Malbranchea cinnamomea* TAIM 13T51.
YIN-MEI CHIUNG, TOMOYUKI FUJITA, MASAHIRA NAKAGAWA, HIROSHI NOZAKI, GUEH-YUH CHEN, ZUEI-CHING CHEN & MITSURU NAKAYAMA ..... (12): 1819~1826

BMS-181184, a new pradimicin derivative. Screening, taxonomy, directed biosynthesis, isolation and characterization.
TAMOTSU FURUMAI, KYOICHIRO SAITOH, MASATOSHI KAKUSHIMA, SATOSHI YAMAMOTO, KIYOSHI SUZUKI, CHIHARU IKEDA, SEIKICHI KOBARU, MASAMI HATORI & TOSHIKAZU OKI .... (2): 265~274

Pradimicins L and FL: New pradimicin congeners from *Actinomadura verrucosospora* subsp. *neohibisca*.
KYOICHIRO SAITOH, YOSUKE SAWADA, KOJI TOMITA, TAKASHI TSUNO, MASAMI HATORI & TOSHIKAZU OKI ..... (3): 387~397

Pradimicins T1 and T2, new antifungal antibiotics produced by an actinomycete. I. Taxonomy, production, isolation, physico-chemical and biological properties.
TAMOTSU FURUMAI, TOSHIFUMI HASEGAWA, MASATOSHI KAKUSHIMA, KIYOSHI SUZUKI, HARUAKI YAMAMOTO, SATOSHI YAMAMOTO, MINORU HIRANO & TOSHIKAZU OKI ..... (4): 589~597

Biosynthesis of the pradimicin family of antibiotics. I. Generation and selection of pradimicin-nonproducing mutants.
TAMOTSU FURUMAI, SHIZUKO KAKINUMA, HARUAKI YAMAMOTO, NOBUJIRO KOMIYAMA, KIYOSHI SUZUKI, KYOICHIRO SAITOH & TOSHIKAZU OKI ..... (3): 412~419

Biosynthesis of the pradimicin family of antibiotics. II. Fermentation, isolation and structure determination of metabolites associated with the pradimicins biosynthesis.
TAKASHI TSUNO, HARUAKI YAMAMOTO, YUKIO NARITA, KIYOSHI SUZUKI, TOSHIFUMI HASEGAWA, SHIZUKO KAKINUMA, KYOICHIRO SAITOH, TAMOTSU FURUMAI & TOSHIKAZU OKI ..... (3): 420~429
Pradimicin Q, a new pradimicin aglycone, with α-glucosidase inhibitory activity.
YOSUKE SAWADA, TAKASHI TSUNO, TOMOKAZU UEKI, HARUAKI YAMAMOTO, YASUO FUKAGAWA & TOSHIKAZU OKI ..... (3): 507~510
Calbistrins, novel antifungal agents produced by *Penicillium restrictum*. I. Production, taxonomy of the producing organism and biological activity.
MARIANNA JACKSON, JAMES P. KARWOWSKI, PATRICK E. HUMPHREY, WILLIAM L. KOHL, GRANT J. BARLOW & S. KEN TANAKA ..... (1): 34~38
Calbistrins, novel antifungal agents produced by *Penicillium restrictum*. II. Isolation and elucidation of structure.
GREGORY M. BRILL, RANDAL H. CHEN, RONALD R. RASMUSSEN, DAVID N. WHITTERN & JAMES B. MCALPINE ..... (1): 39~47
AB023, novel polyene antibiotics. I. Taxonomy of the producing organism, fermentation and antifungal activity.
DANTE CIDARIA, GIORGIO BORGONOVI & GIORGIO PIRALI ..... (2): 251~254
AB023, novel polyene antibiotics. II. Isolation and structure determination.
ROSSELLA BORTOLO, SILVIA SPERA, GIANFRANCO GUGLIELMETTI & GIORGIO CASSANI ..... (2): 255~264
Novel antimycin antibiotics, urauchimycins A and B, produced by marine actinomycete.
NOBUTAKA IMAMURA, MIYUKI NISHIJIMA, KYOUKO ADACHI & HIROSHI SANO ..... (2): 241~246
Isolation, structure determination and biological activities of a novel antifungal antibiotic, S-632-C, closely related to glutarimide antibiotics.
AKIRA URAKAWA, TOSHIO OTANI, KEN-ICHIRO YOSHIDA, MITSURU NAKAYAMA, KAYOKO SUZUKAKE-TSUCHIYA & MAKOTO HORI ..... (12): 1827~1833

ANTIBACTERIAL SUBSTANCES

Ferrocins, new iron-containing peptide antibiotics produced by bacteria. Taxonomy, fermentation and biological activity.
NOZOMI KATAYAMA, YUKIMASA NOZAKI, KENJI OKONOGI, SETSUO HARADA & HIDEO ONO ..... (1): 65~70
Ferrocins, new iron-containing peptide antibiotics produced by bacteria. Isolation, characterization and structure elucidation.
SHIGETOSHI TSUBOTANI, NOZOMI KATAYAMA, YASUNORI FUNABASHI, HIDEO ONO & SETSUO HARADA ..... (2): 287~293
Mureidomycins E and F, minor components of mureidomycins.
FUJIO ISONO, YOSHIHARU SAKAIDA, SHUJI TAKAHASHI, TAKESHI KINOSHITA, TAKEMICHI NAKAMURA & MASATOSHI INUKAI ..... (8): 1203~1207
Biophenomycin C, a precursor of biphenomycin A in mixed culture.
MASAMI EZAKI, NOBUHARU SHIGEMATSU, MICHIO YAMASHITA, TADAAKI KOMORI, KAZUYOSHI UMEHARA & HIROSHI IMANAKA ..... (1): 135~140
TAN-1057 A~D, new antibiotics with potent antibacterial activity against methicillin-resistant *Staphylococcus aureus*. Taxonomy, fermentation and biological activity.
NOZOMI KATAYAMA, SHOJI FUKUSUMI, YASUNORI FUNABASHI, TOMOYUKI IWAHI & HIDEO ONO ..... (4): 606~613
Production of a novel polyketide antibiotic, jadomycin B, by *Streptomyces venezuelae* following heat shock.
JANICE L. DOULL, STEPHEN W. AYER, AMRIT K. SINGH & PIERRE THIBAULT ..... (5): 869~871
Thiomarinol, a new hybrid antimicrobial antibiotic produced by a marine bacterium; fermentation, isolation, structure, and antimicrobial activity.
HIDEYUKI SHIOZAWA, TAKESHI KAGASAKI, TAKESHI KINOSHITA, HIDEYUKI HARUYAMA, HARUKI DOMON, YUKIO UTSUI, KENTARO KODAMA & SHUJI TAKAHASHI ..... (12): 1834~1842
Metabolic products of microorganisms. 264. Exfoliamycin and related metabolites, new naphthoquinone antibiotics from *Streptomyces exfoliatus*.
OLIVIER POTTERAT, HANS ZÄHNER, CORINNA VOLKMANN & AXEL ZEECK ..... (2): 346~349
Azicemicin A. A new antimicrobial antibiotic from *Amycolatopsis*.

Toshio Tsuchida, Hironobu Iinuma, Naoko Kinoshita, Takako Ikeda, Ryuichi Sawa, Yoshikazu Takahashi, Hiroshi Naganawa, Tsutomu Sawa, Masa Hamada & Tomio Takeuchi ..... (11): 1772~1774

Three novel polyether antibiotics X-14889A, C, and D from a streptomycete. Taxonomy of the producing organism, fermentation production and biological properties of the antibiotics.
Chao-Min Liu, John W. Westley, Jennifer Chu, T. E. Hermann, Mark Liu & N. Palleroni ..... (2): 275~279

Isolation and characterization of four polyether antibiotics, X-14889A, B, C, and D, closely related to lysocellin and the ferensimycins.
John W. Westley, Chao-Min Liu, John F. Blount, Louis Todaro, Lillian H. Sello & Nelson Troupe ..... (2): 280~286

ANTIPARASTIC, HERBICIDAL AND OTHER SUBSTANCES

Phthoxazolin A, a specific inhibitor of cellulose biosynthesis from microbial origin. I. Discovery, taxonomy of producing microorganism, fermentation, and biological activity.
Yoshitake Tanaka, Isao Kanaya, Yoko Takahashi, Mayumi Shinose, Haruo Tanaka & Satoshi Ōmura ..... (8): 1208~1213

Phthoxazolin A, a specific inhibitor of cellulose biosynthesis from microbial origin. II. Isolation, physico-chemical properties, and structural elucidation.
Yoshitake Tanaka, Isao Kanaya, Kazuro Shiomi, Haruo Tanaka & Satoshi Ōmura ...(8): 1214~1218

AB5046A and B, novel chlorosis-inducing substances from *Nodulisporium* sp.
Masayuki Igarashi, Yasuyuki Tetsuka, Yayoi Mimura, Atsushi Takahashi, Tsuyoshi Tamamura, Kiyoshi Sato, Hiroshi Naganawa & Tomio Takeuchi ..... (12): 1843~1848

Diolmycins, new anticoccidial agents produced by *Streptomyces* sp. I. Production, isolation and physico-chemical and biological properties.
Noriko Tabata, Hiroshi Tomoda, Yōko Takahashi, Katsuji Haneda, Yuzuru Iwai, H. Boyd Woodruff & Satoshi Ōmura ..... (5): 756~761

Epigrisorixin, a new polyether carboxylic antibiotic.
Jamal Mouslim, Annie Cuer, Lucien David & J. C. Tabet ..... (1): 201~203

Xanthoquinodins, new anticoccidial agents produced by *Humicola* sp. Production, isolation and physico-chemical and biological properties.
Noriko Tabata, Yasuko Suzumura, Hiroshi Tomoda, Rokuro Masuma, Katsuji Haneda, Masanori Kishi, Yuzuru Iwai & Satoshi Ōmura ..... (5): 749~755

Hynapenes A, B and C, new anticoccidial agents produced by *Penicillium* sp. I. Production, isolation and physico-chemical and biological properties.
Noriko Tabata, Hiroshi Tomoda, Rokuro Masuma, Katsuji Haneda, Yuzuru Iwai & Satoshi Ōmura ..... (12): 1849~1853

Secondary metabolites by chemical screening. 21. Clonostachydiol, a novel anthelmintic macrodiolide from the fungus *Clonostachys cylindrospora* (strain FH-A 6607).
Susanne Grabley, Peter Hammann, Ralf Thiericke, Joachim Wink, Siegrid Philipps & Axel Zeeck ..... (2): 343~345

Milbemycins α_{11}, α_{12}, α_{13}, α_{14} and α_{15}: A new family of milbemycins from *Streptomyces hygroscopicus* subsp. *aureolacrimosus*. Taxonomy, fermentation, isolation, structure elucidation and biological properties.
Shuji Takahashi, Hiroko Miyaoka, Keiji Tanaka, Ryuzo Enokita & Takao Okazaki ..... (9): 1364~1371

Further novel metabolites of the paraherquamide family.
Simon E. Blanchflower, Rhona M. Banks, Jeremy R. Everett & Christopher Reading ..... (9): 1355~1363

Lachnumon and lachnumol A, new metabolites with nematicidal and antimicrobial activities from the ascomycete *Lachnum papyraceum* (Karst.) Karst. I. Producing organism, fermentation, isolation and biological activities.
Marc Stadler, Heidrun Anke, Wolf-Rüdiger Arendholz, Fritz Hansske, Uwe Anderes, Olov Sterner & Karl-Erik Bergquist ..... (6): 961~967

Cyclophostin, acetylcholinesterase inhibitor from *Streptomyces lavendulae*.
Takashi Kurokawa, Katsuhiro Suzuki, Tatsumi Hayaoka, Taizo Nakagawa,

Takeo Izawa, Masuko Kobayashi & Nobuyuki Harada ..... (8): 1315~1318
Respirantin, a novel insecticidal cyclodepsipeptide from *Streptomyces*.
Ikumi Urushibata, Akira Isogai, Shogo Matsumoto & Akinori Suzuki ..... (4): 701~703
Griseulin, a new nitro-containing bioactive metabolite produced by *Streptomyces* spp.
Muraleedharan G. Nair, Amitabh Chandra & Deborah L. Thorogood..... (11): 1762~1763
CL-307-24, a new antibiotic complex from *Saccharopolyspora aurantiaca* sp. nov. I. Taxonomy, fermentation and purification.
Gilles Etienne, Bernard Fabre, Elise Armau, Frédéric Legendre, Maryvonne Ardourel & Gérard Tiraby.....(5): 770~776
CL307-24, a new antibiotic complex from *Saccharopolyspora aurantiaca* sp. nov.
II. Physico-chemical and biological properties.
Bernard Fabre, Jean Velours, Gilles Etienne, Frédéric Legendre & Gérard Tiraby ..(9): 1421~1427
Cyanopeptolins, new depsipeptides from the cyanobacterium *Microcystis* sp. PCC 7806.
Cornel Martin, Lukas Oberer, Tomio Ino, Wilfried A. König, Michael Busch & Jürgen Weckesser .....(10): 1550~1556
Isolation of trehalamine, the aglycon of trehazolin, from microbial broths and characterization of trehazolin related compounds.
Osamu Ando, Mutsuo Nakajima, Kiyoshi Hamano, Kazuko Itoi, Shuji Takahashi, Yasuyuki Takamatsu, Akira Sato, Ryuzo Enokita, Takao Okazaki, Hideyuki Haruyama & Takeshi Kinoshita .....(7): 1116~1125

BIOLOGICAL SECTION

SCREENING, FERMENTATION AND GENETICS

Screening method for colony-stimulating factor inducers using a human bone marrow stromal cell line, KM-102.
Takafumi Kohama, Hiroko Miyaoka, Akio Torikata, Masatoshi Inukai, Isao Kaneko & Akio Shiraishi.....(10): 1494~1502
A modified method of mixed lymphocyte reaction: Establishment of the assay system and its application to extracts fungal cultures.
Tatsuya Itoh, Kenji Ishii, Tomohiro Irikura, Yoshio Ueno, Asato Kojima & Yoshikazu Horie ..... (10): 1575 ~1581
A simple and rapid screen for inhibitors of factor XIIIa.
A. A. Tymiak, J. G. Tuttle, S. D. Kimball, T. Wang & V. G. Lee.....(1): 204~206
An assay for the detection of bacterial DNA gyrase inhibitors.
Marcia S. Osburne, William M. Maiese & Michael Greenstein .....(11): 1764~1766
A novel producer of the antibiotic kirromycin belonging to the genus *Actinoplanes*.
G. Beretta, F. Le Monnier, E. Selva & F. Marinelli .....(7): 1175~1177
Germicidin, an autoregulative germination inhibitor of *Streptomyces viridochromogenes* NRRL B-1551.
Frank Petersen, Hans Zähner, Jörg W. Metzger, Stefan Freund & Rolf-Peter Hummel .....(7): 1126~1138
Analysis of the nucleotide sequence of *fmrT* encoding the self-defense gene of the istamycin producer, *Streptomyces tenjimariensis* ATCC 31602; comparison with the sequences of *kamB* of *Streptomyces tenebrarius* NCIB 11028 and *kamC* of *Staccharopolyspora hirsuta* CL102.
Toshio Ohta & Mamoru Hasegawa .....(3): 511~517
The amino acid sequence of actinoxanthin apoprotein deduced from the base sequence of the gene.
Nobuo Sakata, Toshiyuki Mase, Souichi Ikeno, Makoto Hori & Toshio Otani .....(9): 1475~1477
Studies on the biosynthesis of fosfomycin. 5. Cloning of genes for fosfomycin biosynthesis.
Tomohisa Kuzuyama, Tomomi Hidaka, Satoshi Imai & Haruo Seto .....(9): 1478~1480

BIOTRANSFORMATION AND BIOSYNTHESIS

Microbial hydroxylation and glucuronidation of the angiotensin II (AII) receptor antagonist MK 954.
Tom S. Chen, L. So, R. White & R. L. Monaghan.....(1): 131~134
A non-enzymatic reaction in the late biosynthesis of the decarestrictine family.
Marion Mayer & Ralf Thiericke .....(9): 1372~1380

The squalestatins, novel inhibitors of squalene synthase produced by a species of *Phoma*. IV. Preparation of fluorinated squalestatins by directed biosyntheis.
RICHARD J. R. CANNELL, MICHAEL J. DAWSON, RICHARD S. HALE, RICHARD M. HALL, DAVID NOBELE, SÉAN LYNN & NICHOLAS L. TAYLOR ..... (9): 1381～1389
Delaminomycins, novel extracellular matrix receptor antagonists. V. Biosynthesis.
MITSUHIRO UENO, IHOMI YOSHINAGA, MASAHIDE AMEMIYA, TETSUYA SOMENO, HIRONOBU IINUMA, MASAAKI ISHIZUKA & TOMIO TAKEUCHI ..... (9): 1390～1396
Enzymatic synthesis and immunosuppressive activity of novel desmethylated immunomycins (ascomycins).
ALI SHAFIEE, TOM S. CHEN, BYRON S. ARISON, FRANCIS J. DUMONT, LAWRENCE COLWELL & LOUIS KAPLAN ..... (9): 1397～1405
Microbial glycosidation of some anthracycline antibiotics by an antibiotic-negative mutant of aclarubicin producer.
OSAMU JOHDO, HIROSHI TONE, ROKURO OKAMOTO, AKIHIRO YOSHIMOTO, HIROSHI NAGANAWA, TSUTOMU SAWA & TOMIO TAKEUCHI ..... (8): 1219～1231
Microbial modification of pradimicins at C-11 leading to 11-*O*-demethyl- and 11-*O*-L-xylosylpradimicins A and FA-1.
TAMOTSU FURUMAI, HARUAKI YAMAMOTO, YUKIO NARITA, TOSHIFUMI HASEGAWA, SHIMPEI ABURAKI, MASATOSHI KAKUSHIMA & TOSHIKAZU OKI ..... (10): 1589～1597
Biosynthesis of the pradimicin family of antibiotics. III. Biosynthetic pathway of both pradimicins and benznomicins.
SHIZUKO KAKINUMA, KIYOSHI SUZUKI, MASAMI HATORI, KYOICHIRO SAITOH, TOSHIFUMI HASEGAWA, TAMOTSU FURUMAI & TOSHIKAZU OKI ..... (3): 430～440
Biochemical studies on 2-deoxy-*scyllo*-inosose, an early intermediate in the biosynthesis of 2-deoxystreptamine. IV. A clue to the similarity of 2-deoxy-*scyllo*-inosose synthase to dehydroquinate synthase
NORIAKI YAMAUCHI & KATSUMI KAKINUMA ..... (12): 1916～1918
Incorporation of carbon-14 in the biosynthesis of the macrolide antibiotic, LL-F28249-α.
Z. H. AHMED, R. R. FIALA & M. W. BULLOCK ..... (4): 614～622
Autoregulation of carbapenem biosynthesis in *Erwinia carotovora* by analogues of *N*-(3-oxohexanoyl)-L-homoserine lactone.
SIRI RAM CHHABRA, PAUL STEAD, NIGEL J. BAINTON, GEORGE P. C. SALMOND, GORDON S. A. B. STEWART, PAUL WILLIAMS & BARRIE W. BYCROFT ..... (3): 441～454
Biosynthetic studies of allosamidin. 2. Isolation of didemethylallosamidin, and conversion experiments of ^{14}C-labeled demethylallosamidin, didemethylallosamidin and their related compounds.
ZE-YANG ZHOU, SHOHEI SAKUDA, MASAYOSHI KINOSHITA & YASUHIRO YAMADA ..... (10): 1582～1588
Microbial conversion of milbemycins: 28-Hydroxylation of milbemycins by *Amycolata autotrophica*.
KEIKO NAKAGAWA, KAZUO SATO, YOSHIHISA TSUKAMOTO & AKIO TORIKATA ..... (3): 518～519
Microbial conversion of avermectins by *Saccharopolyspora erythrea*: Hydroxylation at C28.
MARVIN SCHULMAN, PATRICK DOHERTY, DEBORAH ZINK & BYRON ARISON ..... (6): 1016～1019
Enzymatic dimerization of penicillin X.
HITOSI AGEMATU, TOSHIO TSUCHIDA, KAICHIRO KOMINATO, NORIO SHIBAMOTO, TAKEO YOSHIOKA, HIROSHI NISHIDA, ROKURO OKAMOTO, TAKASHI SHIN & SAWAO MURAO ..... (1): 141～148

BIOACTIVITY, ACTION MECHANISM & RESISTANCE

WB2838 [3-chloro-4-(2-amino-3-chlorophenyl)-pyrrole]: Non-steroidal androgen-receptor antagonist produced by a *Pseudomonas*.
YASUHIRO HORI, YUKIKO ABE, HIDENORI NAKAJIMA, SHIGEHIRO TAKASE, TAKASHI FUJITA, TOSHIO GOTO, MASAKUNI OKUHARA & MASANOBU KOHSAKA ..... (9): 1327～1333
Elevation of low density lipoprotein-receptor mRNA concentration in human hepatoma HepG2 cells by macrolide antibiotics.
MASAMI OGASAWARA, NOBUAKI NARUSE, ATSUKO YOSHIMURA, YASUTARO HAMAGISHI & TOSHIKAZU OKI ..... (5): 866～868
Antilymphocytic activity of erythromycin distinct from that of FK506 or cyclosporin A.
NAOTO KEICHO, SHOJI KUDOH, HIDEKI YOTSUMOTO & KIYOKO S. AKAGAWA ..... (9): 1406～1413

In vitro and *ex vivo* free radical scavenging activities of carazostatin, carbazomycin B and their derivatives.
SHINICHIRO KATO, TOMIKO KAWASAKI, TETSURO URATA & JUNICHIRO MOCHIZUKI ..... (12): 1859~1865

R1128 substances, novel non-steroidal estrogen-receptor antagnoists produced by a *Streptomyces*. III. Pharmacological properties and antitumor activities.
YASUHIRO HORI, YUKIKO ABE, MAKOTO NISHIMURA, TOSHIO GOTO, MASAKUNI OKUHARA & MASANOBU KOSHSAKA ..... (7): 1069~1075

Studies on cell growth stimulating substances of low molecular weight. Part 2. Exfoliazone and lavanducyanin, potent growth promoting substances of rat liver cell line, RLN-8, produced by *Streptomyces exfoliatus* and *Streptomyces aeriouvifer*.
SHINSUKE IMAI, TADASHI NOGUCHI & HARUO SETO ..... (8): 1232~1238

Studies on cell growth stimulating substances of low molecular weight. Part 3. Resorcinin, a mammalian cell growth stimulating substance produced by *Cytophaga johnsonae*.
SHINSUKE IMAI, KOHTARO FUJIOKA, KAZUO FURIHATA, RYOSUKE FUDO, SHIGERU YAMANAKA & HARUO SETO ..... (8): 1319~1322

Studies on cell growth stimulating substances of low molecular weight. Part 4. Misakimycin, a mammalian cell growth stimulating substance produced by *Streptomyces misakiensis*.
SHINSUKE IMAI, KOHTARO FUJIOKA, KAZUO FURIHATA, KEIKO FURIHATA & HARUO SETO ... (8): 1323~1325

Competitive inhibition of squalene synthetase by squalestatin 1.
KEIJI HASUMI, KIYOSHI TACHIKAWA, KAORU SAKAI, SHIGEO MURAKAWA, NOBUJI YOSHIKAWA, SHIGENORI KUMAZAWA & AKIRA ENDO ..... (4): 689~691

Specific binding of β-lactone 1233A to 3-hydroxy-3-methylglutaryl-coenzyme A synthase.
HIROSHI TOMODA, HIDETOSHI KUMAGAI, HARUO TANAKA & SATOSHI ŌMURA ..... (5): 872~874

Inhibition of acyl-CoA:cholesterol acyltransferase by helminthosporol and its related compounds.
JONG KOO PARK, KEIJI HASUMI & AKIRA ENDO ..... (8): 1303~1305

Effect of cephalosporins on γ-aminobutyric acid receptor binding with or without non-steroidal anti-inflammatory drugs.
SEIJI HORI, KEIJI KANEMITSU & JINGORO SHIMADA ..... (7): 1145~1148

Amphotericin B-induced resistance to *Pseudomonas aeruginosa* infection in mice.
TETSUYA MATSUMOTO, MITSUO KAKU, NOBUHIKO FURUYA, TOSHIAKI USUI, SHIGERU KOHNO, KAZUNORI TOMONO, KAZUHIRO TATEDA, YOICHI HIRAKATA & KEIZO YAMAGUCHI ..... (5): 777~784

T cell activation by conagenin in mice.
MASAJI KAWATSU, TAKASHI YAMASHITA, MICHIYO OSONO, MASAAKI ISHIZUKA & TOMIO TAKEUCHI ..... (11): 1687~1691

Effect of conagenin in tumor bearing mice. Antitumor activity, generation of effector cells and cytokine production.
MASAJI KAWATSU, TAKASHI YAMASHITA, MICHIYO OSONO, TOHRU MASUDA, MASAAKI ISHIZUKA & TOMIO TAKEUCHI ..... (11): 1692~1698

WS1279, a novel lipopeptide isolated from *Streptomyces willmorei*. Biological activities.
MIHO TANAKA, YASUHIRO HORI, FUMIHIKO SAKAI, HIROTSUGU UEDA, TOSHIO GOTO, MASAKUNI OKUHARA, YUKO TSUDA & YOSHIO OKADA ..... (11): 1699~1706

Angelmicins, new inhibitors of oncogenic *src* signal transduction.
YOSHIMASA UEHARA, PEI-MING LI, HIDESUKE FUKAZAWA, SATOSHI MIZUNO, YUMI NIHEI, MAKI NISHIO, MINORU HANADA, CHII YAMAMOTO, TAMOTSU FURUMAI & TOSHIKAZU OKI ..... (8): 1306~1308

Diverse effects of indolocarbazole compounds on the cell cycle progression of *ras* transformed rat fibroblast cells.
SHIRO AKINAGA, KAYO NOMURA, KATSUSHIGE GOMI & MASAMI OKABE ..... (11): 1767~1771

Staurosporine derivatives reverse multidrug resistance without correlation with their protein kinase inhibitory activities.
SHINYA WAKUSAWA, KOHSEI INOKO, KEN-ICHI MIYAMOTO, SHINJI KAJITA, TAKAAKI HASEGAWA, KENZO HARIMAYA & MASAO KOYAMA ..... (2): 353~355

Inhibition of angiogenesis by erbstatin, an inhibitor of tyrosine kinase.
TSUTOMU OIKAWA, HIROMI ASHINO, MARIKO SHIMAMURA, MASAMI HASEGAWA, IKUO MORITA, SEI-ITSU MUROTA, MASAAKI ISHIKZUKA & TOMIO TAKEUCHI ..... (5): 785~790

Biological properties of aureobasidin A, a cyclic depsipeptide antifungal antibiotic.
KAZUTOH TAKESAKO, HIROYUKI KURODA, TOSHIAKI INOUE, FUMIYO HARUNA,

Yoshie Yoshikawa, Ikunoshin Kato, Katsuhisa Uchida, Tamio Hiratani & Hideyo Yamaguchi ..... (9): 1414~1420
Biological activities of novel polyether antifungals, gambieric acids A and B from a marine dinoflagellate *Gambierdiscus toxicus*.
Hiroshi Nagai, Yuzuru Mikami, Katsukiyo Yazawa, Tohru Gonoi & Takeshi Yasumoto ..... (3): 520~522
Studies on the mode of antifungal action of pradimicin antibiotics. I. Lectin-mimic binding of BMY-28864 to yeast mannan in the presence of calcium.
Tomokazu Ueki, Kei-ichi Numata, Yoshuke Sawada, Tasuku Nakajima, Yasuo Fukagawa & Toshikazu Oki ..... (1): 149~161
Studies on the mode of antifungal action of pradimicin antibiotics. II. D-Mannopyranoside-binding site and calcium-binding site.
Tomokazu Ueki, Kei-ichi Numata, Yosuke Sawada, Maki Nishio, Hiroaki Ohkuma, Soichiro Toda, Hajime Kamachi, Yasuo Fukagawa & Toshikazu Oki ..... (3): 455~464
Studies on the mode of antifungal action of pradimicin antibiotics. III. Spectrophotometric sequence analysis of the ternary complex formation of BMY-28864 with D-mannopyranoside and calcium.
Tomokazu Ueki, Masahisa Oka, Yasuo Fukagawa & Toshikazu Oki ..... (3): 465~477
Clerocidin, a terpenoid antibiotic, inhibits bacterial DNA gyrase.
John E. McCullough, Mark T. Muller, Alison J. Howells, Anthony Maxwell, Joseph O'Sullivan, Rosalie S. Summerill, William L. Parker, J. Scott Wells, Daniel P. Bonner & Prabhavathi B. Fernandes ..... (3): 526~530
Implication of cohesive binding of a macrolide antibiotic, rokitamycin, to ribosomes from *Staphylococcus aureus*.
Kikutarou Endou, Mayumi Matsuoka, Hirofumi Taniguchi & Yoshinori Nakajima ..... (3): 478~485
Affinity of E1077. A new cephalosporin, for penicillin-binding proteins of *Staphylococcus aureus* and its antistaphylococcal activity.
Nao-Aki Watanabe & Kanemasa Katsu ..... (11): 1707~1715
In vitro antibacterial activity of FK037, a novel parenteral broad-spectrum cephalosporin.
Yasuhiro Mine, Yuji Watanabe, Hiroshi Sakamoto, Kazuo Hatano, Kyoichiro Kuno, Yasuyuki Higashi, Toshiaki Kamimura, Yoshimi Matsumoto, Shuichi Tawara, Fumio Matsumoto & Shogo Kuwahara ..... (1): 71~87
In vivo antibacterial activity of FK307, a novel parenteral broad-spectrum cephalosporin.
Yasuhiro Mine, Yuji Watanabe, Hiroshi Sakamoto, Kazuo Hatano, Yoshimi Wakai, Toshiaki Kamimura, Shuichi Tawara, Satoru Matsumoto, Fumio Matsumoto & Shogo Kuwahara ..... (1): 88~98
Excellent activity of FK037, a novel parenteral broad-spectrum cephalosporin, against methicillin-resistant staphylococci.
Yasuhiro Mine, Yuji Watanabe, Hiroshi Sakamoto, Kazuo Hatano, Kyoichiro Kuno, Toshiaki Kamimura, Shuichi Tawara, Yoshimi Matsumoto, Fumio Matsumoto & Shogo Kuwahara ..... (1): 99~119
Eliophylin as a rumen fermentation efficiency enhancer.
Chao-Min Liu, L. Jensen, J. W. Westley & D. Siegel ..... (2): 350~352
Anticoccidial activity of salinomycin derivatives.
Peter Hammann, Wolfgang Raether & Laszlo Vertesy ..... (3): 523~525

PHARMACOLOGY & TOXICOLOGY

Animal pharmacokinetics of FK307, a novel parenteral broad-spectrum cephalosporin.
Hiroshi Sakamoto, Kazuo Hatano, Yasuyuki Higashi, Yasuhiro Mine, Shoji Nakamoto, Shuichi Tawara, Toshiaki Kamimura, Fumio Matsumoto & Shogo Kuwahara ..... (1): 120~130
Neurite formation in NG108-15 neuroblastoma × glioma hybrid cells by KS-505a, a potent inhibitor of brain cyclic nucleotide phosphodiesterase.
Ken Nagashima, Shinichiro Toki, Satoshi Nakanishi, Hiroshi Kase & Yuzuru Matsuda ..... (9): 1481~1483

CHEMISTRY SECTION

STRUCTURE DETERMINATION

Biologically Active Microbial Products

Tetronothiodin, a novel cholecystokinin type-B receptor antagonist produced by *Streptomyces* sp. NR0489. III. Structural elucidation.
TATSUO OHTSUKA, NOBORU NAKAYAMA, YOSHIKO ITEZONO, NOBUO SHIMMA, TOSHIKAZU KUWAHARA, KAZUTERU YOKOSE & HARUO SETO ..... (1): 18~24

Thiazohalostatin, a new cytoprotectives substance produced by *Actinomadura*. II. Physico-chemical properties and structure determination.
KAZUTOSHI SHINDO, YUJI YAMAGISHI & HIROYUKI KAWAI ..... (11): 1638~1642

Rumbrin, a new cytoprotective substance produced by *Auxarthron umbrinum*. II. Physico-chemical properties and structure determination.
YUJI YAMAGISHI, KAZUTOSHI SHINDO & HIROYUKI KAWAI ..... (6): 888~891

R1128 substances, novel non-steroidal estrogen-receptor antagonists produced by a *Streptomyces*. II. Physico-chemical properties and structure determination.
YASUHIRO HORI, SHIGEHIRO TAKASE, NOBUHARU SHIGEMATSU, TOSHIO GOTO, MASAKUNI OKUHARA & MASANOBU KOHSAKA ..... (7): 1063~1068

Lagunamycin, a novel 5-lipoxygenase inhibitor. II. Structural studies.
KIYOTO IMAE, YOSHIMI NIHEI, MASAHISA OKA, TETSURO YAMASAKI, MASATAKA KONISHI & TOSHIKAZU OKI ..... (6): 1031~1033

Tetrafibricin, a novel fibrinogen receptor antagonist. II. Structural elucidation.
TSUTOMU KAMIYAMA, YOSHIKO ITEZONO, TAKAYUKI UMINO, TOMOKO SATOH, NOBORU NAKAYMA & KAZUTERU YOKOSE ..... (7): 1047~1054

New inhibitors of melanogenesis, OH-3984 K1 and K2. II. Physico-chemical properties and structural elucidation.
SATOSHI TAKAMATSU, MUN-CHUAL RHO, MASAHIKO HAYASHI, KANKI KOMIYAMA, HARUO TANAKA, SATOSHI ŌMURA & GENJI IMOKAWA ..... (10): 1526~1529

Delaminomycins, novel nonpeptide extracellular matrix receptor antagonist and a new class of potent immunomodulator. II. Physico-chemical properties and structure elucidation of delaminomycin A.
MITSUHIRO UENO, TETSUYA SOMENO, RYUICHI SAWA, HIRONOBU IINUMA, HIROSHI NAGANAWA, MASAAKI ISHIZUKA & TOMIO TAKEUCHI ..... (6): 979~984

Delaminomycins, novel extracellular matrix receptor antagonist. III. Physico-chemical properties and structure elucidation of delaminomycins B and C.
MITSUHIRO UENO, TETSUYA SOMENO, RYUICHI SAWA, HIRONOBU IINUMA, HIROSHI NAGANAWA, MASAAKI ISHIZUKA & TOMIO TAKEUCHI ..... (6): 1020~1023

Tautomeric phenomenon of a novel potent immunosuppressant (FK506) in solution. I. Isolation and structure determination of tautomeric compounds.
Y. NAMIKI, N. KIHARA, S. KODA, K. HANE & T. YASUDA ..... (7): 1149~1155

Anti-cancer, -viral and -fungal Substances

Leptolstatin from *Streptomyces* sp. SAM1595, a new gap phase-specific inhibitor of the mammalian cell cycle. II. Physico-chemical properties and structure.
KEIICHI ABE, MINORU YOSHIDA, HIDEO NAOKI, SUEHARU HORINOUCHI & TERUHIKO BEPPU .... (5): 735~740

Dephostatin, a novel protein tyrosine phosphatase inhibitor produced by *Streptomyces*. II. Structure determination.
HIDEAKI KAKEYA, MASAYA IMOTO, YOSHIKAZU TAKAHASHI, HIROSHI NAGANAWA, TOMIO TAKEUCHI & KAZUO UMEZAWA ..... (11): 1716~1719

UCT4B, a new antitumor antibiotic with topoisomerase II mediated DNA cleavage activity. Structure determination.
YOUICHI UOSAKI, SHO-ZOU KAWADA, HIROFUMI NAKANO, YUTAKA SAITOH & HIROSHI SANO ..... (2): 235~240

Pepticinnamins, new farnesyl-protein transferase inhibitors produced by an actinomycete. II. Structural elucidation of pepticinnamin E.

Kazuro Shiomi, Hong Yang, Junji Inokoshi, Didier Van Der Pyl, Akira Nakagawa, Hideo Takeshima & Satoshi Ōmura ..... (2): 229~234
Quinolidomicins A_1, A_2 and B_1, novel 60-membered macrolide antibiotics.
II. Structure elucidation.
Yoichi Hayakawa, Kazuo Shin-ya, Kazuo Furihata & Haruo Seto ..... (10): 1563~1569
Structure of RK-397, a new oxo pentaene antibiotic.
Hiroyuki Koshino, Kimie Kobinata, Kiyoshi Isono & Hiroyuki Osada ..... (10): 1619~1621
Respinomycins A1, A2, B, C and D, a novel group of anthracycline antibiotics.
II. Physico-chemical properties and structure elucidation.
Makoto Ubukata, Jun Uzawa, Hiroyuki Osada & Kiyoshi Isono ..... (6): 942~951
Novel cytocidal compounds oxopropalines from *Streptomyces* sp. G324 producing lavendamycin.
II. Physico-chemical properties and structure elucidations.
Naoki Abe, Nobuyasu Enoki, Yasukazu Nakakita, Hideaki Uchida, Takehiko Nakamura & Masanobu Munekata ..... (11): 1678~1686
Verucopeptin, a new antitumor antibiotic active against B16 melanoma.
II. Structure determination.
Koko Sugawara, Soichiro Toda, Toshio Moriyama, Masataka Konishi & Toshikazu Oki ..... (6): 928~935
Sandramycin, a novel antitumor antibiotic produced by a *Nocardioides* sp.
II. Structure determination.
James A. Matson, Kimberly, L. Colson, Gilbert N. Belofsky & Bonnie B. Bleiberg ..... (1): 162~166
Conformation studies on and assessment by spectral analysis of the protein-chromophore interaction of the macromolecular antitumor antibiotic C-1027.
Toshio Otani ..... (5): 791~802
UK-1, a novel cytotoxic metabolite from *Streptomyces* sp. 517-02. II. Structural elucidation.
Kozo Shibata, Masaru Kashiwada, Masashi Ueki & Makoto Taniguchi ..... (7): 1095~1100
A new antitumor substance, BE-18591, produced by a streptomycete. II. Structure determination.
Shigeru Nakajima, Katsuhisa Kojiri & Hiroyuki Suda ..... (12): 1894~1896
New antiviral antibiotics, kistamicins A and B. II. Structure determination.
Nobuaki Naruse, Masahisa Oka, Masataka Konishi & Toshikazu Oki ..... (12): 1812~1818
Mer-WF3010, a new member of the papulacandin family. II. Structure determination.
Hiroyuki Chiba, Rei Kaneto, Hitosi Agematu, Norio Shibamoto, Takeo Yoshioka, Hiroshi Nishida & Rokuro Okamoto ..... (2): 356~358
Stereostructure and NMR characterization of the antibiotic candidin.
Jan Pawlak, Paweł Sowiński, Edward Browski & Pierluigi Gariboldi ..... (10): 1598~1604
Pradimicins T1 and T2, new antifungal antibiotics produced by an actinomycete.
II. Structures and biosynthesis.
Toshifumi Hasegawa, Masatoshi Kakushima, Masami Hatori, Shimpei Aburaki, Shizuko Kakinuma, Tamotsu Furumai & Toshikazu Oki ..... (4): 598~605

Antibacterial and Other Agents

On the structure of alisamycin, a new member of the manumycin class of antibiotics.
Sugata Chatterjee, E. K. S. Vijayakumar, Christopher M. M. Franco, Jurgen Blumbach, Bimal N. Ganguli, H.-W. Fehlhaber & H. Kogler ..... (6): 1027~1030
Studies on the structure of meropenem (SM-7338) and it's primary metabolite.
Yutaka Takeuchi, Takaaki Inoue & Makoto Sunagawa ..... (5): 827~832
Diolmycins, new anticoccidial agents produced by *Streptomyces* sp. II. Structure elucidation of diolymycins A1, A2, B1 and B2, and synthesis of diolmycin A1.
Noriko Tabata, Toshiaki Sunazuka, Hiroshi Tomoda, Tohru Nagamitsu, Yuzuru Iwai & Satoshi Ōmura ..... (5): 762~769
Hynapenes A, B and C, new anticoccidial agents produced by *Penicillum* sp.
II. Structure elucidation.
Noriko Tabata, Hiroshi Tomoda, Yuzuru Iwai & Satoshi Ōmura ..... (12): 1854~1858
Lachnumon and lachnumol A, new metabolites with nematicidal and antimicrobial activities from the ascomycete *Lachnum papyraceum* (Karst.) Karst. II. Structural elucidation.
Marc Stadler, Heidrun Anke, Karl-Erik Bergquist & Olov Sterner ..... (6): 968~971

SYNTHESIS AND STRUCTURE-ACTIVITY RELATIONSHIPS

β-Lactams

(6*R*)-6-(Substituted methyl)penicillanic acid sulfones: New potent β-lactamase inhibitors.
S. Adam, R. Then & P. Angehrn ..... (4): 641~646
Use of amino acid *N*-carboxy anhydride in the synthesis of peptide prodrug derivatives (including β-chloroalanyl) of C_4-β-aminoalkyl carbapenems. *In vitro* and *in vivo* activities.
Vanga S. Rao, Joan C. Fung-Tomc & James V. Desiderio ..... (1): 167~176
Synthesis and antibacterial activity of new 2-substituted penems. I.
Toshiyuki Nishi, Kunio Higashi, Makoto Takemura & Makoto Sato ..... (11): 1740~1751
Heteroaryliumthio substituted carbapenem derivatives: Synthesis and *in vitro* activity of 1β-methyl-2-(dihydropyrrolotriazoliumthio)carbapenems.
Kenneth J. Wildonger & Ronald W. Ratcliffe ..... (12): 1866~1882
The effect of 1β-methyl and imidoyl substituents on the antipseudomonal activity of carbapenems.
Yoshihiro Sumita, Yoko Eguchi, Masatomo Fukasawa, Takao Okuda, Hiroshi Yamaga, Haruki Matsumura & Makoto Sunagawa ..... (10): 1629~1632
Orally active cephalosporins. II. Synthesis and structure-activity relationships of new 7β-[(*Z*)-2-(2-aminothiazol-4-yl)-2-hydroxyiminoacetamido]cephalosporins with 1,2,3-triazole in C-3 side chain.
Masaharu Kume, Tadatoshi Kubota, Yasuo Kimura, Hiromu Nakashimizu, Kiyoshi Motokawa & Masao Nakano ..... (1): 177~192
Orally active cephalosporins. III. Synthesis and structure-activity relationships of new 3-heterocyclicthiomethylthio-7β-[(*Z*)-2-(2-aminothiazol-4-yl)-2-hydroxyiminoacetamido]-3-cephem-4-carboxylic acids.
Masaharu Kume, Tadatoshi Kubota, Yasuo Kimura, Hiromu Nakashimizu & Kiyoshi Motokawa ..... (2): 316~330
FK037, a new parenteral cephalosporin with a broad antibacterial spectrum: Synthesis and antibacterial activity.
Hidenori Ohki, Kohji Kawabata, Shinya Okuda, Toshiaki Kamimura & Kazuo Sakane ..... (2): 359~361
Cephalosporins having a heterocyclic catechol in the C3 side chain. I. Enhancement of efficacy against Gram-negative bacteria.
Kiyoto Imae, Seiji Iimura, Toshifumi Hasegawa, Takaaki Okita, Minoru Hirano, Hajime Kamachi & Hideo Kamei ..... (5): 840~849
Cephalosporins having a heterocyclic catechol in the C3 side chain. II. Improvement of pharmacokinetic profile.
Seiji Iimura, Kiyoto Imae, Toshifumi Hasegawa, Takaaki Okita, Masami Tamaoka, Shinji Murata, Hajime Kamachi & Hideo Kamei ..... (5): 850~857
Synthesis and antibacterial activity of cephalosporins having a catechol in the C3 side chain.
Takaaki Okita, Kiyoto Imae, Toshifumi Hasegawa, Seiji Iimura, Shinji Masuyoshi, Hajime Kamachi & Hideo Kamei ..... (5): 833~839
Synthesis and structure-activity relationships of new cephalosporins with aminoimidazoles at C-7. Effect of the *p*Ka of the C-7 aminoimidazole on antibacterial spectrum and β-lactamase stability.
F. Jung, D. Boucherot, C. Delvare, A. Olivier, G. M. Davies, M. J. Betts, R. Brown, R. Stevenson, M. Joseph, J. F. Kingston & J. D. Pittam ..... (6): 992~1012
Synthesis and biological activity of 3-(*N*-substituted pyridinium-4-thiomethyl)-7α-formamido cephalosporins.
Angela W. Guest, Richard G. Adams, Michael J. Basker, Edward G. Brain, Clive L. Branch, Frank P. Harrington, Jane E. Neale, Michael J. Pearson & Iskander I. Zomaya ..... (8): 1279~1288
Synthesis and biological properties of some 3-[(*N*-substituted-amino)pyridinium-4-thiomethyl]-7-[2-(2-amino-thiazol-4-yl)-2-(*Z*)-(methoxyimino)acetamido]ceph-3-em-4-carboxylates.
Clive L. Branch, Richard G. Adams, Edward G. Brain, Angela W. Guest, Frank P. Harrington, Sarah J. Knott, Michael J. Pearson & Iskander I. Zomaya ... (8): 1289~1299
Synthesis and biological activity of C-3′ *ortho* dihydroxyphthalimido cephalosporins.
Marie-Geneviève Baudart & Lurent F. Hennequin ..... (9): 1458~1470

The synthesis and biological characteristics of new orally active cephems.
ROBERT J. TERNANSKY, CHRISTOPHER L. JORDAN, F. WILLIAM BELL, THERESEA G. SKAGGS, & JEFFREY S. KASHER ..... (12): 1897~1900
Synthesis and structure-activity relationships of some 6β-acrylamido penicillins.
RICHARD K. ANDERSON, PAULINE C. CHAPMAN, SUZANNE C. COSHAM, J. SYDNEY DAVIES, TREVOR J. GRINTER, MICHAEL A. HARRIS, DAVID J. MERRIKIN, CHRISTINA A. MITCHELL, ROGER J. PONSFORD, CAROL F. SMITH & ANDREW V. STACHULSKI ..... (2): 331~342
Stereoselective synthesis of BRL 56173, a bicyclic acrylic penicillin highly stable to β-lactamases.
RICHARD J. ATKINS, ROGER J. PONSFORD & ANDREW V. STACHULSKI ..... (2): 362~365

Others

Synthesis of the metabolite *N*-hydroxy-desferrioxamine B.
BARBARA E. ROGGO & HEINRICH H. PETER ..... (2): 294~299
Syntheses of the potent inhibitors of neuraminidase, *N*-(1,2-dihydroxypropyl) derivatives of siastatin B and its 4-deoxy analogs.
TOSHIAKI KUDO, YOSHIO NISHIMURA, SHINICHI KONDO & TOMIO TAKEUCHI ..... (2): 300~309
Delaminomycins, novel extracellular matrix receptor antagonist. IV. Structure-activity relationships of delaminomycins and derivatives.
MITSUHIRO UENO, MASAHIDE AMEMIYA, KATSUHISA YAMAZAKI, MASATOMI IIJIMA, MICHIYO OSONO, TETSUYA SOMENO, HIRONOBU IINUMA, MASA HAMADA, MASAAKI ISHIZUKA & TOMIO TAKEUCHI ..... (7): 1156~1162
Synthesis and structure-activity relationships of new dimeric mitomycin derivatives; 7-*N*,7′-*N*′-bis(ω-thioalkyl)dimitomycins.
MOTOMICHI KONO, YUTAKA SAITOH, MASAJI KASAI, KUNIKATSU SHIRAHATA, MAKOTO MORIMOTO & TADASHI ASHIZAWA ..... (9): 1428~1438
Structure-antitumor activity relationship of semi-synthetic spicamycin analogues.
MASARU KAMISHOHARA, HIROYUKI KAWAI, ATSUO ODAGAWA, TOSHIYUKI ISOE, JUN-ICHIRO MOCHIZUKI, TAKESHI UCHIDA, YOICHI HAYAKAWA, HARUO SETO, TAKASHI TSURUO & NOBORU ŌTAKE ..... (9): 1439~1446
Deacetylation effect of *N*,*N*-dimethylvancosamine in saptomycins D and E.
NAOKI ABE, NOBUYASU ENOKI, YASUKAZU NAKAKITA, HIDEAKI UCHIDA, TAKEHIKO NAKAMURA & MASANOBU MUNEKATA ..... (4): 692~697
Chemical transformation of gilvocarcin V. Modification of the side-chain.
OSAMU KIKUCHI, TADASHI EGUCHI, KATSUMI KAKINUMA, YASUHIKO KOEZUKA, KAZUTOSHI SHINDO & NOBORU ŌTAKE ..... (6): 985~991
Synthesis and antitumor activity of anthracycline disaccharide glycosides containing daunosamine.
DEREK HORTON, WALDEMAR PRIEBE, MARCOS K. SZNAIDMAN & OSCAR VARELA ..... (11): 1720~1730
A family of cyclophellitol analogs: Synthesis and evaluation.
MASAYA NAKATA, CHU CHONG, YOSIHISA NIWATA, KAZUNOBU TOSHIMA & KUNIAKI TATSUTA ..... (12): 1919~1922
Synthesis and antiviral activity of adenosine deaminase-resistant oxetanocin A derivatives: 2-Halogeno-oxetanocin A.
AKIRA MASUDA, MASAYUKI KITAGAWA, ASAKO TANAKA, SEIICHI SAITO, NOBUYOSHI SHIMADA, RYUJI IKEDA, HIROO HOSHINO, TOHRU DAIKOKU & YUKIHIRO NISHIYAMA ..... (6): 1034~1037
Synthesis of 3-episiastatin B analogues having anti-influenza virus activity.
YOSHIO NISHIMURA, YOJI UMEZAWA, SHINICHI KONDO, TOMIO TAKEUCHI, KEIJI MORI, ISAO KIJIMA-SUDA, KENKICHI TOMITA, KANETSU SUGAWARA & KIYOTO NAKAMURA ..... (12): 1883~1889
Synthesis and antifungal selectivity of new derivatives of amphotericin B modified at the C-13 position.
ANDREW W. TAYLOR, BENJAMIN J. COSTELLO, PAMELA A. HUNTER, WILLIAM S. MACLACHLAN & COLIN T. SHANKS ..... (3): 486~493
Synthesis and antifungal activities of pradimicin A derivatives modification of the alanine moiety.
MAKI NISHIO, HIROAKI OHKUMA, MASATOSHI KAKUSHIMA, SHIN-ICHI OHTA, SEIJI IIMURA, MINORU HIRANO, MASATAKA KONISHI & TOSHIKAZU OKI ..... (3): 494~499
Synthesis and antifungal activities of alanine-exchanged analogs of pradimicin A.
SATSUKI OKUYAMA, MASATOSHI KAKUSHIMA, HAJIME KAMACHI, MASATAKA KONISHI & TOSHIKAZU OKI ..... (3): 500~506

Synthesis and antifungal activity of pradimicin derivatives. Modifications of the sugar part.
Shimpei Aburaki, Haruhiro Yamashita, Takeshi Ohnuma, Hajime Kamachi, Toshio Moriyama, Shinji Masuyoshi, Hideo Kamei, Masataka Konishi & Toshikazu Oki ..... (4): 631~640
Antifungal activities of pradimicin derivatives modified at C4′-amino group.
Hajime Kamachi, Satsuki Okuyama, Minoru Hirano, Shinji Masuyoshi, Masataka Konishi & Toshikazu Oki ..... (8): 1246~1251
Synthesis and antifungal activity of pradimicin derivatives. Modifications on the aglycone part.
S. Aburaki, S. Okuyama, H. Hoshi, H. Kamachi, M. Nishio, T. Hasegawa, S. Masuyoshi, S. Iimura, M. Konishi & T. Oki ..... (9): 1447~1457
New virginiamycin M_1 derivatives: Synthesis, cholecystokinin binding inhibitory and antimicrobial properties.
Y. K. Tony Lam, Ping Dai, Deborah L. Zink, Alison J. Smith, Nailin W. Lee, Stephen Freedman & Michael J. Salvatore ..... (4): 623~630
Synthesis and antimicrobial activity of sperabillin derivatives.
Tsuneaki Hida, Shigetoshi Tsubotani, Nozomi Katayama, Yasunori Funabashi, Hideaki Natsugari & Setsuo Harada ..... (5): 803~812
Synthesis and biological activity of derivatives of glycopeptide antibiotics eremomycin and vancomycin nitrosated, acylated or carbamoylated at the *N*-terminal.
A. Y. Pavlov, T. F. Berdnikova, E. N. Olsufyeva, E. I. Lazhko, I. V. Malkova, M. N. Preobrazhenskaya, R. T. Testa & P. J. Petersen ..... (11): 1731~1739
Structures of enzymatically modified products of arbekacin by methicillin-resistant *Staphylococcus aureus*.
Shinichi Kondo, Atsushi Tamura, Shuichi Gomi, Yoko Ikeda, Tomio Takeuchi & Susumu Mitsuhashi ..... (2): 310~315
New 2″-amino derivatives of arbekacin, potent aminoglycoside antibiotics against methicillin-resistant *Staphylococcus aureus*.
Shinichi Kondo, Seiji Shibahara, Takayuki Usui, Toshiaki Kudo, Atsuchi Tamura, Shuichi Gomi, Yoko Ikeda, Daishiro Ikeda & Tomio Takeuchi ..... (3): 531~534
Octapeptide derivatives of teicoplanin antibiotics.
Adriano Malabarba, Romeo Ciabatti, Roberto Scotti & Beth P. Goldstein ..... (4): 661~667
N^{63}-Carboxamides of N^{15}-alkyl and N^{15},N^{15}-dialkyl derivatives of teicoplanin and deglucoteicoplanin.
Adriano Malabarba, Romeo Ciabatti, Jürgen Kettenring, Roberto Scotti, Giampaolo Candiani, Marisa Berti, Rosa Pallanza & Beth P. Goldstein ..... (4): 668~675
Synthesis of 3-deoxy-3,4-didehydro derivatives of 5-*O*-mycaminosyltylonolide, 5-*O*-(4-deoxymycaminosyl) tylonolide, and desmycosin.
Shunji Kageyama, Tsutomu Tsuchiya & Sumio Umezawa ..... (8): 1265~1278
9a,11-Cyclic carbamates of 15-membered azalides.
Gabrijela Kobrehel, Gorjana Lazarevski, Željko Kelnerić & Slobodan Đokić ..... (8): 1239~1245
Chemical modification of erythromycins. IX. Selective methylation at the C-6 hydroxyl group of erythromycin a oxime derivatives and preparation of clarithromycin.
Yoshiaki Watanabe, Shigeo Morimoto, Takashi, Adachi, Masato Kashimura & Toshifumi Asaka ..... (4): 647~660
Acid degradation studies of 6-deoxyerythromycin A.
Ramin Faghin, Tom Pagano, Jim McAlpine, Ken Tanaka, Jake Plattner & Paul Lartey ..... (4): 698~700
Synthetic studies of erythromycin derivatives. Syntheses and antimicrobial activities of 3″-*epi*-erythromycin A and (9*S*)-11-dehydroxy-9-deoxo-9-hydroxy-1-oxoerythromycin A.
Masaya Nakata, Tetsuro Tamai, Yukiko Miura, Mitsuhiro Kinoshita & Kuniaki Tatsuta ..... (5): 813~826
Chemical modification of erythromycins. XII. A facile synthesis of clarithromycin (6-*O*-methylerythromycin A) *via* 2′-silylethers of erythromycin A derivatives.
Yoshiaki Watanabe, Takashi Adachi, Toshifumi Asaka, Masato Kashimura, Toru Matsunaga & Shigeo Morimoto ..... (7): 1163~1167
Inactivated products of rifampicin by pathogenic *Nocardia* spp.: Structures of glycosylated and phosphorylated metabolites of rifampicin and 3-formylrifamycin SV.
Naoko Morisaki, Shigeo Iwasaki, Katsukiyo Yazawa, Yuzuru Mikami &

AKIO MAEDA ..... (10): 1605~1610
Synthesis of diolmycin analogs and their anticoccidial activities.
TOSHIAKI SUNAZUKA, NORIKO TABATA, TOHRU NAGAMITSU, HIROSHI TOMODA & SATOSHI ŌMURA ..... (7): 1178~1180
Synthesis and anthelmintic activity of 13-alkoxymilbemycin derivatives.
AKIO SAITO, SATORU NAITO, MAKIO KOBAYASHI, MANAMI TSUCHIYA, TOSHIMITSU TOYAMA, SUSUMU KANEKO, TOSHIHIKO NANBA & YASUHIRO MORISAWA ..... (8): 1252~1264

Corrections

In January issue: 46 (1) C-1

Original Article by AKIO MAEDA, KATSUKIYO YAZAWA, YUZURU MIAKAMI, MASASHI ISHIBASHI & JUN'ICHI KOBAYASHI: The producer and biological activities of SO-075R1, a new mutactimycin group antibiotic. J. Antibiotics 45, No. 12, pp. 1848~1852, December 1992

In March issue: 46 (3) C-2

Original Article by MASAMI EZAKI NOBUHARU SHIGEMATSU, MICHIO YAMASHITA, TADAAKI KOMORI, KAZUYOSHI UMEHARA & HIROSHI IMANAKA: Biphenomycin C, a precursor of biphenomycin A in mixed culture. J. Antibiotics 46, No. 1, pp. 135~140, January 1993

In June issue: 46 (6) C-2

Note by NAOKI ABE, NOBUYASU ENOKI, YASUKAZU NAKAKITA, HIDEAKI UCHIDA, TAKEHIKO NAKAMURA & MASANOBU MUNEKATA: Deacetylation effect of *N,N*-dimethylvanocosamine in saptomycins D and E. J. Antibiotics 46, No. 4, pp. 692~697, April 1993

In October issue: 46 (10) C-3

Note by MARVIN SCHULMAN, PATRICK DOHERTY, DEBORAH ZINK & BYRON ARISON: Microbial conversion of avermectins by *Saccharopolyspora erythrea*: Hydroxylation at C28. J. Antibiotics 46, No. 6, pp. 1016~1019, June 1993

In November issue: 46 (11) C-4

Original Article by SHUJI TAKAHASHI, HIROKO MIYAOKA, KEIJI TANAKA, RYUZO ENOKITA & TAKAO OKAZAKI: Milbemycins α_{11}, α_{12}, α_{13}, α_{14} and α_{15}: A new family of milbemycins from *Streptomyces hygroscopicus* subsp. *aureolacrimosus*. Taxonomy, fermentation, isolation, structure elucidation and biological properties. J. Antibiotics 46, No. 9, pp. 1364~1371, September 1993

SUBSTANCE INDEX

Page numbers of principal references are shown in **bold** print.

Acetomycin 1126
Actinomycin 1764
Actinomycin D 1232
Actinoxanthin **1475**
Adenophostin A, B **1643**
Aklavin 465
Aklavinone, 7-*O*-daunosaminyl- **1758**
Aklavinone, 7-*O*-daunosaminyl-4-*O*-methyl **1758**
Albocycline 1520, 1526
Albocycline, 2,3-dihydro- 1520, 1526
Albocycline, 2,3-dihydro-11-hydroxy- 1520, 1526
Alisamycin **1027**
Allosamidin 1582
Allosamidin, demethyl- 1582
Allosamidin, didemethyl- **1582**
Amikacin 310
Amoxycillin 331
Amphotericin B 398, 486, 520, 580, 589, 685, **777**, 1414, 1589
Amphotericin B, 13-*O*-(2-hydroxyethyl)- **486**
Amphotericin B, 13-*O*-methyl **486**
Amphotericin B, 13-*O*-propyl- **486**, 526, 580, 1764
Angelmicin A, B **1306**
Anguinomycin A, B 735, 1503
Anisomycin **1300**
Anisomycin, deacetyl- **1300**
Anisomycin, deacetyldemethyl- **1300**
Ankinomycin 1536
Anthracycline disaccharide glycosides **1720**
Anthranilate, *n*-hexyl 5-hydroxy- **705**
Anthranilate, isodecyl 5-hydroxy- **705**
Anthranilate, isolauryl 5-hydroxy- **705**
Anthranilate, isoundecyl 5-hydroxy- **705**
Anthranilate, *n*-lauryl 5-hydroxy- **705**
Anthranilate, methyl 5-hydroxy **705**
Anthranilate, *n*-nonyl 5-hydroxy **705**
Anthranilate, *n*-propyl 5-hydroxy- **705**
Anthranilic acid, 5-hydroxy- 705
Anthrotainin **214**
Aquastatin A **1648**
Aquayamycin, 3'-deoxy- 861
Arbekacin 310, 531
Arbekacin 6'-*N*-acetyl- **310**
Arbekacin, 2"-amin-2"-deoxy- **531**
Arbekacin, 2"-amino-5,2"-dideoxy- **531**
Arbekacin 2"-phosphate **310**
Arbekacin 2"-phosphate, 6'-*N*-acetyl- **310**
Ardeemin **374**, **380**
Ardeemin, 5-*N*-acetyl- **374**, **380**
Ardeemin, 15b-β-hydroxy-5-*N*-acetyl- **380**
Aspochalasin C, D 679
Aspochalasin E **679**
Aureobasidin A **1347**, **1414**
Aureobasidin F 1347
Aureobasidin S_1, S_{2a}, S_{2b}, S_3, S_4 ..... **1347**
Aurodox 1175
Avermectin 1364
Azdimycin 1175
Azicemicin A **1772**
Azinothricin 928
Azithromycin 1239
Azithromycin, 6-*O*-methyl- 1239
Bacitracin 1764
Bafilomycin A1, C1 866
Benanomicin A, B 149, 265
Benanomicin A, dexylosyl- 265
Benanomicins **430**
Benastatin A 712, 914
Benastatin B 712
Benastatin C, D **712**
Benzylpenicillin 1764
Bequinostatin A **914**, 1309
Bequinostatin B **914**
Bequinostatin C, D **1309**
Bestatin 1699
Betaclamycin T 1219
Biphenomycin A, B 135
Biphenomycin C **135**
Bleomycin 1764
Calbistrin A, B, C **34**, **39**
Calbistrin D **39**
Candidin **1598**
Carazostatin **1859**
Carazostatin, 3-*O*-acetyl- **1859**
Carazostatin, *N*-3-*O*-dimethyl- **1859**
Carazostatin, 3-*O*-methyl **1859**
Carbapenem derivatives, C4-β-aminoalkyl **167**
Carbapenems, 1β-methyl-2-(dihydropyrrolotriazoliumthio)- **1866**
Carbazomycin A **1859**
Carbazomycin A, *N*-methyl- **1859**
Carbazomycin B 25, 900, **1859**
Carbazomycin B, 4-*O*-acetyl- **1859**
Carbazomycin B, 4-*O*-methyl- **1859**
Carminomycin, 9,10-anhydro-13-deoxo- **56**
Carminomycin, 9,10-anhydro-13-dihydro- **56**
Carminomycin, 10-carboxy-13-deoxo- **56**
Carminomycin, 13-deoxo- **56**
Carminomycin, 13-dihydro- **56**, 1219
Carminomycin, 10-hydroxy-13-deoxo- **56**
Carminomycin, 10-methoxycarbonyl-13-deoxo- **56**
Carminomycin I 465

Cefaclor 992
Cefazolin **1145**
Cefepime **1458**
Cefmetazole **1145**
Cefoperazone 71, 88, 99
Cefotaxime 992, 1289
Cefoxitin 1707
Cefpirome 71, 88, 99, 120, 359, **1145**, 1289, 1458, 1707
Ceftazidime 71, 88, 120, 833, 840, 850, 1279, 1289, 1458, 1707
Ceftizoxime 71, 88, 99
Ceftriaxone 850, 1458
Cefuroxime axetil 331
Cefuzonam 71, 88, 99
Ceph-3-em-4-carboxylates, 3-[(*N*-substituted-amino)-pyridinium-4-thiomethyl]-7-[2-(2-amino-thiazol-4-yl)-2-(*Z*)-(methoxyimino)acetamido]- **1289**
Cephalexin 580
Cephalochromin **207**
Cephaloridine **1145**
Cephalosporins **833**, **840**, **850**, **992**
Cephalosporins, 7β-[(*Z*)-2-(2-aminothiazol-4-yl)-2-hydroxyiminoacetamido]- **177**
Cephalosporins, C-3′ *ortho* dihydroxyphthalimido **1458**
Cephalosporins, 3-(*N*-substituted pyridinium-4-thiomethyl)-7α-formamido **1279**
Cephalothin **1764**
Cephem-4-carboxylic acids, 3-heterocyclicthiomethylthio-7β-[(*Z*)-2-(2-aminothiazol-4-yl)-2-hydroxyiminoacetamido]-3- **316**
Cerulenin 204
Chaetiacandin 247
Chartreusin 1126, 1611
Chloramphenicol 526, 580, 1764
Chrysosporin **1170**
Cilastatin 606
Cinodine 1764
Ciprofloxacin 526
Cispentacin 685
Citropeptin 928
Clarithromycin **647**, **1163**
Clavulanic acid 580, 641
Clerocidin **526**
Clindamycin 478
Clonostachydiol **343**
Colistin 580
Colletallol 343
Colletodiol 343
Conagenin **1687**, **1692**
Concanamycin 866
Curvularin, α,β-dehydro- 679
Curvularin, β-hydroxy- 679
Curvularin, β-methoxy- 679
β-Cyanoglutamic acid **685**
Cyanopeptolin A, B, C, D **1550**
Cyclophellitol analogs **1919**
Cyclophostin **1315**
Cycloserine 526
Cyclosporin A 1406, 1575, 1788
Cypemycin **1666**
Cysfluoretin **1471**
Dactylfungin A, B **48**
Daunomycin 465, 569, 936
Daunorubicin 56, 1758
Decarestrictine A_1, A_2, B, D, E, F, N, O **1372**
Delaminomycin A **716**, **979**, 1020, **1156**, **1390**
Delaminomycin B, C **719**, **1020**, **1156**, 1390
Delaminomycin derivatives **1156**
Dephostatin **1342**, **1716**
Desferrioxamine B 294
Desferrioxamine B, *N*-hydroxy- **294**
Desmycocin, 4″-*O*-acetyl-3-deoxy-3,4-didehydro- . . . **1265**
Desmycocin, 3-deoxy-3,4-didehydro- **1265**
Desmycocin 20-(ethylene acetal), 4″-*O*-acetyl-3-deoxy-3,4-didehydro- **1265**
Desmycocin 20-(ethylene acetal), 2′,4′,4″-tri-*O*-acetyl-3-deoxy-3,4-didehydro- **1265**
Dobekacin 531
Dibekacin, 2″-amino-2″-deoxy- **531**
Dibekacin, 2″-amino-5,2″-dideoxy- **531**
Diolmycin A1, A2, B1, B2 . . . . . **756**, **762**, **1178**
Doxorubicin 465, 682, 1764
Efrotomycin 1175
Elaiophylin **350**
Enoxacin 526
Epigrisorixin **201**
Epinigericin 201
Epocarbazolin A, B **25**, 900
Epocarbazolin B, tetramethyl- 25
Erbstatin **785**
Eremomycin 1731
Eremomycin, *N*-butoxycarbonyl- **1731**
Eremomycin, *N*-carbamoyl- **1731**
Eremomycin, *N*-carbobenzoxy- **1731**
Eremomycin, *N′*,*N″*-dibenzyl-*N*-nitroso- **1731**
Eremomycin, *N*,*N″*-dicarbamoyl- **1731**
Eremomycin, *N′*,*N″*-dimethyl-*N*-nitroso- **1731**
Eremomycin, *N*-nitroso- **1731**
Erythromycin 478, 580, 606, 1126, 1265, **1406**
Erythromycin A 647, 698, 813
3″-*epi*-Erythromycin A **813**
Erythromycin A, (9*S*)-11-dehydroxy-9-deoxo-9-hydroxy-11-oxo **813**
Erythromycin A, 6-deoxy- 698
Erythromycin A, 9a,11-cyclic carbamate, 9-deoxo-9a-aza-11-deoxy-9a-homo- **1239**
Erythromycin A, 9a,11-cyclic carbamate, 6,4″-di-*O*-methyl-9-deoxo-9a-aza-11-deoxy-9a-homo- **1239**
Erythromycin A, 9a,11-cyclic carbamate, 6-*O*-methyl-9-deoxo-9a-aza-11-deoxy-9a-homo- **1239**
Eupenifeldin **1082**
Exfoliamycin **346**

Exfoliamycin, 3-*O*-methyl- **346**
Exfoliamycin, anhydro- **346**
Exfoliazone **1232**
Factumycin 1175
Ferrocin A, B, C, D **65**, **287**
Feudomycin B, 10-methoxycarbonyl-4-*O*-demethyl- ..**56**
Feudomycin C, 10-carboxy-4-*O*-demethyl- **56**
Feudomycin C, 10-methoxycarbonyl-4-*O*-demethyl- ..**56**
Fiscalin A, B, C **545**
Flavensomycin 1126
Flomoxef 71, 88, 99, 850
Fluconazole 1414
Fluvastatin 866
Fosfomycin 99, 580, **1478**
Fostriecin 1503
Gambieric acid A, B, C, D **520**
Gentamicin 310, 526, 580, 606, 1764
Germicidin **1126**
Gilvocarcin A, H, O, HIM, MEAM **985**
Gilvocarcin V 985
Granaticin 1764
Griseulin **1762**
Grisorixin 201
Heliomycin 1764
Helminthosporal-derived acid **1303**
Helminthosporic acid **1303**
Helminthosporol **1303**
Heneicomycin 1175
Herbimycin A 1306
Hormaomycin 1126
Hynapene A, B, C **1849**, **1854**
Imipenem 88, 99, 167, 606, 840, 850, **1629**
Imipenem, 1β-methyl **1629**
Immunomycin 1397
Immunomycin, 13,15-*O*-bisdesmethyl- **1397**
Immunomycin, 13,31-*O*-bisdesmethyl- 1397
Immunomycin, 15,31-*O*-bisdesmethyl- 1397
Immunomycin, 13-*O*-desmethyl- **1397**
Immunomycin, 15-*O*-desmethyl- **1397**
Immunomycin, 31-desmethyl- 1397
Immunomycin, 13,15,31-*O*-tridesmethyl- 1397
Inosose, 2-deoxy-*scyllo*- **1916**
Isochromophilone I, II **1908**
Ivermectin 961, 1252
Ivermectin aglycone 1016
Ivermectin aglycone, 28-hydroxy **1016**
Jadomycin B **869**
Josamycin 478, 580
Kanamycin 310, 580
Kazusamycin A, B 735, 1503
Ketoconazole 398, 580, 685, 952, 1589
Kirromycin 1175
Kirrothricin 1175
Kistamicin A, B **1804**, **1812**
Kojic acid 1520
Lachnumol A **961**, **968**
Lachnumon **961**, **968**
Lagunamycin **900**, **1031**
Lasalocid 350
Lateritin **1782**
Lavanducyanin **1232**
Lavendamycin 1672, 1678
Leptolstatin **728**, **735**
Leptomycin A 735, 1503
Leptomycin B 728, 735, 1503
Leukomitomycin A **1428**
Leustroducsin A, B, C **1503**, **1512**
Lincomycin 478, 580
Lysocellin 280
Lysolipin 1126
Malbranicin **1819**
Malolactomycin A **1912**
Manumycin 1904
Mecillinam 992
Meropenem **827**, **1629**
Meropenem, desmethyl **1629**
Meropenem metabolites **827**
Methicillin 606, 1764
Midecamycin 478
Mikamycin B 478
Milbemycin A_3, A_4 ..... 518, 1252
Milbemycin A_3, A_4, 13-[2-(4-aminophenyl)ethyloxy]- **1252**
Milbemycin A_3, A_4, 28-hydroxy- **518**
Milbemycin A_3, A_4, 13-{2-[4-(*N*-methanesulfonyl-methylamino)phenyl]ethyloxy}- **1252**
Milbemycin A_3, A_4, 13-{2-[4-(3-methylthioureido)-phenyl]ethyloxy}- **1252**
Milbemycin A_3, A_4, 13-{2-[4-(3-methylureido)phenyl]-ethyloxy}- **1252**
Milbemycin A_3, 13-(4-nitrophenethyloxy)- **1252**
Milbemycin A_4, 13-[2-(4-acetamidophenyl)ethyloxy]- **1252**
Milbemycin A_4, 13β-cyclohexyloxy- **1252**
Milbemycin A_4, 13-[2-(3,4-dimethoxyphenyl)ethyloxy]- **1252**
Milbemycin A_4, 13-[2-(4-ethoxycarbonylaminophenyl)-ethyloxy]- **1252**
Milbemycin A_4, 13-[2-(4-methanesulfonylaminophenyl)-ethyloxy]- **1252**
Milbemycin A_4, 13β-methoxy- **1252**
Milbemycin A_4, 13β-(2-methylpropyloxy)- **1252**
Milbemycin A_4, 13-(4-nitrobenzyloxy)- **1252**
Milbemycin A_4, 13β-[2-(4-nitrophenyl)ethyloxy]- .. **1252**
Milbemycin A_4, 13β-(tertiary butyloxy)- **1252**
Milbemycin D 1252, 1364
Milbemycin α_{11}, α_{12}, α_{13}, α_{14}, α_{15} **1364**
Minocycline 99
Miokamycin 478
Misakimycin **1323**
Mitomycin A, B, D, F, J 1428
Mitomycin C 465, 728, 921, 1076, 1428, 1764
Mitomycin C, 7-*N*-[2-[(2-aminoethyl)dithio]ethyl]- **1428**
Mitomycin C, 7-*N*,7′-*N*′-bis(4-thiobutyl)di- **1428**

Mitomycin C, 7-*N*,7′-*N*′-bis(12-thiododecyl)di- **1428**
Mitomycin C, 7-*N*,7′-*N*′-bis(2-thioethyl)di- **1428**
Mitomycin C, 7-*N*,7′-*N*′-bis(6-thiohexyl)di- **1428**
Mitomycin C, 7-*N*,7′-*N*′-bis(8-thiooctyl)di- **1428**
Mitomycin C, 7-*N*,7′-*N*′-bis(3-thiopropyl)di- **1428**
Mitomycin D, 7-*N*,7′-*N*′-bis(2-thioethyl)di- **1428**
Mitomycin D, 7-*N*,7′-*N*′-bis(3-thiopropyl)di- **1428**
Mitomycin E, 7-*N*,7′-*N*′-bis(2-thioethyl)di- **1428**
Mitosenes **1428**
Mocimycin 1175
Mocimycin, dihydro- 1175
Monensin 749, 756, 1764, 1849
Moxidectin 614
Mureidomycin E, F **1203**
Mycinamicin I 478
Mycorrhizin A **961**, **968**
Mycorrhizin A, chloro- **961**, **968**
Mycorrhizin A, dechloro- **961**, **968**
Mycoticin 1619
Nalidixic acid 526, 580, 1764
Naphthopyranomycin 346
Napyradiomycin A, B1 ..... **1890**
Nemadectin **614**
Netilmicin 310
Netropsin 1764
Nigericin 201
Nisamycin **1904**
Nitrosoxacin A, B, C **193**
Norfloxacin 580, 1764
Novobiocin 526, 1126, 1764
Obscurolide A_1, A_2, A_3, A_4 1625
Obscurolide $B_{2\alpha}$, $B_{2\beta}$, B_3, B_4, $C_{2\alpha}$, $C_{2\beta}$, D_2 ..... **1625**
Obscurolide C_2, methyl ester **1625**
Ofloxacin 526
Oleandomycin 478
Oligomycin 972, 1421
Oligomycin A, B 1334
Oligomycin F **1334**
Olivomycin A 1082
Orienticin A 1181
Orienticin A, B, C, chloro- 1181
Orienticin C 1181
Oxaunomycin 1219
Oxazolomycin 1214
Oxazolomycin, diacetyl- 1214
Oxetanocin A 1034
Oxetanocin A, 2-bromo- **1034**
Oxetanocin A, 2-chloro- **1034**
Oxetanocin A, 2-fluoro- **1034**
Oxetanocin A, 2-iodo- **1034**
Oxopropaline A, B, D, E, G **1672**, **1678**
Panipenem **1629**
Panipenem, 1β-methyl **1629**
Papulacandin A 247
Papulacandin B 247, 952
Papulacandin M 952
Paraherquamide 1355
Penems, 2-substituted **1740**
Penicillanic acid sulfones, (6*R*)-6-(substituted methyl)- **641**
Penicillin X 141
Penicillins, 6β-acrylamido **331**
Pepticinnamin A, B, C, D, F **222**
Pepticinnamin E **222**, **229**
Phenazoviridin **1485**
Phenelfamycin 1175
Phoslactomycin A, B, C, D, E 1503
Phoslactomycin F 1503, 1512
Phosphazomycin A, B, C, D 1503
Phospholine 1503
Phthoxazolin A **1208**, **1214**
Piericidin B_5 ..... **564**
Piericidin B_5, *N*-oxide **564**
Pluramycin A 1536
Polymyxin 1126
Polymyxin B 580, 1764
Porfiromycin, 7-*N*,7′-*N*′-bis(2-thioethyl)di- **1428**
Pradimicin A 149, 265, 387, 406, 420, 494, 500, 507, 580, 598, 631, 1246, 1447
Pradimicin A, D-alanyl **494**
Pradimicin A, L-alanyl **494**
Pradimicin A, 4-amino- **1447**
Pradimicin A, L-aspartyl **494**
Pradimicin A, 4-bromo- **1447**
Pradimicin A, 10-carboxy- **1447**
Pradimicin A, 11-demethoxy- **1447**
Pradimicin A, 11-*O*-demethyl- **1447**
Pradimicin A, 13-deoxo- **1447**
Pradimicin A, 4′-*N*,*N*-dimethyl-10-methyl **1447**
Pradimicin A, 4′-*N*,*N*-dimethyl-10-trimethyl-ammoniummethyl **1447**
Pradimicin A, glycyl **494**
Pradimicin A, 7-hydroxy- **412**, **420**
Pradimicin A, 10-iodo- **1447**
Pradimicin A, L-lysyl **494**
Pradimicin A, 9-*O*-methyl- **1447**
Pradimicin A, 10-*O*-methyl- **1447**
Pradimicin A, 4-nitro- **1447**
Pradimicin A amide **494**
Pradimicin A analogs **500**
Pradimicin A butylamide **494**
Pradimicin A dimethylamide **494**
Pradimicin A ethyl ester **494**
Pradimicin A methyl ester **494**
Pradimicin A methylamide **494**
Pradimicin A pivaloyloxymethyl ester **494**
Pradimicin B 387, 398, 631
Pradimicin C 149, 387, 631, 1246
Pradimicin D 387, 500
Pradimicin E 387
Pradimicin, FA-1 ..... 387, 500, 1246
Pradimicin FA-2 ..... 265, 387, 1246
Pradimicin FB, FS **398**
Pradimicin FH, H **1589**

Pradimicin FH, H, 11-*O*-L-xylosyl- **1589**
Pradimicin FL **387**, 398
Pradimicin L **387**, 398, 406, 507
Pradimicin M, N, O, P 507
Pradimicin Q **507**
Pradimicin S 398, **406**, **580**
Pradimicin T1 ..... **589**, **598**, 1447
Pradimicin T1, 11-*O*-allyl- **1447**
Pradimicin T1, 11-carbamoyl- **1447**
Pradimicin T1, 11-*O*-carbamoylmethyl- **1447**
Pradimicin T1, 11-*O*-carboxymethyl- **1447**
Pradimicin T1, 11-cyano- **1447**
Pradimicin T1, 11-deoxy- **1447**
Pradimicin T1, T2, 11-*O*-dexylosyl- 598
Pradimicin T1, 11-dimethylamino- **1447**
Pradimicin T1, 11-*O*-ethyl- **1447**
Pradimicin T1, 11-*O*-(2-fluoroethyl)- **1447**
Pradimicin T2 ..... **589**, **598**
Pradimicin T2, 5-*O*-defucosyl- 598
Pradimicin derivatives **631**
Pradimicinone I **412**, 420, 507
Pradimicinone I, dealanyl 507
Pradimicinone I, II, 11-*O*-demethyl- **412**, **420**
Pradimicinone II **412**, **420**
Pradimicinone II, 11-*O*-demethyl-7-methoxy- ... **412**, **420**
Pradimicinone II, 7-methoxy- **412**
Pradimicins **430**
Pradimicins, 4′-*N*-modified **1246**
Pradinone I **412**, 420, 507
Pradinone I, II, 11-*O*-demethyl- **412**, **420**, 598
Pradinone I, 11-*O*-demethyl-6-deoxy- **412**, **420**
Pradinone II, 11-*O*-demethyl-7-methoxy- **412**, **420**
Pradinone II, 7-*O*-methyl-11-*O*-demethyl- 598
Pyocyanin 1232
Pyripyropene A, B, C, D **1168**
Pyrrolnitrin 1327
Pyrrolostatin **892**
Questiomycin A 1232
Questiomycin A, *N*-acetyl- 1232
Quinolidomicin A_1, A_2, B_1 ..... **1557**, **1563**
Reductoleptomycin A **676**
Resorcinin **1319**
Resorstatin **1024**
Respinomycin A1, A2, B, C, D **936**, **942**
Respirantin **701**
Rhizopodin **741**
Rhodomycinone, 7-*O*-daunosaminyl-ε- **1758**
Rhodomycinone, 7-*O*-daunosaminyl-4-*O*-methyl-ε- **1758**
Ribavirin 398, 580
Rifampicin 1126, 1605, 1764
Rifampicin, 23-[*O*-(β-D-glucopyranosyl)]- **1605**
Rifampicin, 21-(*O*-phosphoryl)- **1605**
Rifamycin 526
Rifamycin SV, 3-formyl-23-[*O*-(β-D-glucopyranosyl)]- **1605**
Rifamycin SV, 3-formyl-21-(*O*-phosphoryl)- **1605**
Rokitamycin **478**
Rosamicin 478
Rousselianone A **1507**
Rousselianone A′ 1570
Rumbrin **884**, **888**
Salinomycin derivatives **523**
Sandramycin **162**
Saptomycin A, B, C_1, C_2, F, G, H **1530**, **1536**
Saptomycin D, E **692**, **1530**, **1536**
Saptomycin D, E, deacetyl- 692
Siastatin B 300
Siastatin B, 4-deoxy- **300**
Siastatin B, 3,4-didehydro-4-deoxy- **300**
Siastatin B, 3,4-diepi- 1883
Siastatin B, *N*-[(*R*)-1,2-dihydroxypropyl]- **300**
Siastatin B, *N*-[(*S*)-1,2-dihydroxypropyl]- **300**
Siastatin B, *N*-[(*R*)-1,2-dihydroxypropyl]-4-deoxy- .. **300**
Siastatin B, *N*-[(*S*)-1,2-dihydroxypropyl]-4-deoxy- .. **300**
Siastatin B, *N*-[(*R*)-1,2-dihydroxypropyl]-3,4-didehydro-4-deoxy- **300**
Siastatin B, *N*-[(*S*)-1,2-dihydroxypropyl]-3,4-didehydro-4-deoxy- **300**
Siastatin B, 3-epi- **1883**
Sinefungin 430
Sperabillin A, B, C, D 803
Sperabillin derivatives **803**
Spicamycin 1439
Spicamycin IV, V, VI, VII, VIII, X, XII, XVI **1439**
Spicamycin amino nucleoside 1439
Spiramycin 478
Squalestatin 1381
Squalestatin 1 ..... **689**
Squalestatins, fluorinated **1381**
Staurosporine **353**, **1767**
Staurosporine, 7-oxo- **353**
Streptimidone 1827
Streptimidone, 8,9-epoxy-9-methyl- 1827
Streptimidone, 9-methyl- 1827
Streptomycin 478, 1126
Sulbactam 641
Sultriecin 1503
Teicoplanin 1181
Teicoplanin A2 668
Teicoplanin derivatives **661**, **668**
Teicoplanin derivatives, degluco- **668**
Terpentecin 235
Terpestacin **367**
Tetracycline 526, 580, 1764
Tetrafibricin **1039**, **1047**
Tetronothiodin **1**, **11**, **18**
Thiangazole **1752**
Thiazohalostatin **1633**, **1638**
Thienamycin **1629**
Thienamycin, 1β-methyl **1629**
Thiomarinol **1834**
Ticarcillin 580
Tobramycin 310, 580

Trehalamine **1116**
Trehazolin 1116
Tryptoquivaline 545
Tylonolide, 23-*O*-*tert*-butyldimethylsilyl-3-deoxy-3,4-didehydro-5-*O*-mycaminosyl- **1265**
Tylonolide, 3-deoxy-5-*O*-(4-deoxymycaminosyl)-2,3-didehydro- 1265
Tylonolide, 3-deoxy-5-*O*-(4-deoxymycaminosyl)-3,4-didehydro- **1265**
Tylonolide, 3-deoxy-2,3-didehydro-5-*O*-mycaminosyl- 1265
Tylonolide, 3-deoxy-3,4-didehydro-5-*O*-mycaminosyl- **1265**
Tylonolide, 5-*O*-(4-deoxymycaminosyl)- 1265
Tylonolide, 5-*O*-(2,4-di-*O*-acetylmycaminosyl)-23-*O*-*tert*-butyldimethylsilyl-3-deoxy-3,4-didehydro- **1265**
Tylonolide 9,20-bis(ethylene acetal), 5-*O*-(4-bromo-4-deoxymycaminosyl)-23-*O*-*tert*-butyldimethylsilyl-3-deoxy-3,4-didehydro- **1265**
Tylonolide 9,20-bis(ethylene acetal), 23-*O*-*tert*-butyldimethylsilyl-5-*O*-(4-chloro-4-deoxymycaminosyl)-3-deoxy-3,4-didehydro- **1265**
Tylonolide 9,20-bis(ethylene acetal), 23-*O*-*tert*-butyldimethylsilyl-3-deoxy-5-*O*-(4-deoxy-4-iodomycaminosyl)-3,4-didehydro- **1265**
Tylonolide 9,20-bis(ethylene acetal), 23-*O*-*tert*-butyldimethylsilyl-3-deoxy-5-*O*-(4-deoxymycaminosyl)-3,4-didehydro- **1265**
Tylonolide dimethyl acetal, 5-*O*-(2-*O*-acetyl-4-deoxymycaminosyl)-23-*O*-*tert*-butyldimethylsilyl-3-deoxy-3,4-didehydro- **1265**
Tylonolide dimethyl acetal, 23-*O*-*tert*-butyldimethylsilyl-3-deoxy-5-*O*-(4-deoxymycaminosyl)-3,4-didehydro- **1265**
Tylosin 478
Ubenimex 1699
Urauchimycin A, B **241**
Vancomycin 99, 606, 850, 1126, **1181**, 1731, 1764
Vancomycin, agluco- 1181
Vancomycin, *N'*-benzyl-*N*-nitroso- **1731**
Vancomycin, desvancosamine 1181
Vancomycin, monodechloro- 1181
Vancomycin, *N*-nitroso- **1731**
Vancomycins, *N*-acyl- 1181
Vancomycins, *N*-alkyl- 1181
Variapeptin 928
Verucopeptin **921**, **928**
Vicenistatin **1076**
Virginiamycin M_1 623
Virginiamycin M_1 derivatives **623**
Viridicatumtoxin 214
Xanthofusin **1013**
Xanthoquinodin A1, A2, A3, B1, B2 ..... **749**
Yellamycin A 1219
Zincphyrin **196**
A25822B **1312**
A51568A 1181
A51568B 1181
A73A 1175
A82846A 1181
A82846B 1181
A82846B derivatives, *N*-alkyl- 1181
A82846C 1181
A83010F 1175
A83586C 928
A83850B 1181
AB023a **251**, **255**
AB023b **251**, **255**
AB5046A **1843**
AB5046B **1843**
AC6D 682
AC6H **682**
AC8007 ..... **196**
AG-2 507
AS-183 ..... **1196**
BE-18591 ..... **1799**, **1894**
BE-18591 HCl 1894
BK223-A **1101**
BK223-B **1101**
BK233-C **1101**
BMS-181184 ..... **149**, **265**
BMS-181532 265
BMS-184497 ..... 455, 465
BMY-28567 455
BMY-28634 455
BMY-28749 455
BMY-28750 455
BMY-28754 455
BMY-28782 ..... **921**, **928**
BMY-28864 ..... **149**, **455**, **465**, 589
BMY-28864 methyl ester 465
BMY-28946 455
BMY-28962 455
BRL 44154 ..... 331, 362
BRL 48025 362
BRL 56173 ..... **362**
BU-3983T **921**, **928**
BU-4514N **875**
BU-4601 A **705**
BU-4601 B **705**
BU-4601 C **705**
BU-4704 ..... **687**
BU-4794F **952**
C-1027 ..... **791**
C-1027-AG **791**
C-1027-UV 791
CDP-1 1181
CG15-A **1219**
CG15-B **1219**
CG17-A **1219**
CG17-B **1219**
CG18-B **1219**
CG19-A **1219**
CG19-B **1219**

CG20-A **1219**
CG20-B **1219**
CG21-A **1219**
CG21-B **1219**
CG22-A **1219**
CG22-B **1219**
CGP 41 251 ..... **1767**
CL307-24 complex **770**
CL307-24I **1421**
CL307-24II **1421**
CL307-24III **1421**
CL307-24IV **1421**
D329C **1611**
D788-1 ..... **56**
D788-2 ..... **56**
D788-5 ..... 1219, **1758**
D788-6 ..... **56**, 1219, **1758**
D788-7 ..... **56**
D788-8 ..... **56**
D788-9 ..... **56**
D788-10 ..... **56**
D788-11 ..... **56**
D788-12 ..... **56**
D788-15 ..... **56**
D788-16 ..... **1758**
D788-17 ..... **1758**
DB-2073 1024
E1077 ..... **1707**
F-244 ..... **872**
FK037 ..... **71**, **88**, **99**, **120**, **359**
FK482 ..... **1897**
FK506 ..... **1149**, 1397, 1406, 1575
FK565 1699
FR 901277 ..... **908**
FR 901459 ..... **1788**
IC101 ..... **1658**
K-252a **1767**
KS-505a **1481**
KT6006 ..... **1767**
KT6124 ..... **1767**
KT6528 ..... **1767**
L-156,602 ..... 928, 1658
L-659,699 ..... **872**
L-681,110 A_1 972
L-681,217 1175
L-687,781 ..... 247, 952
LB-1 1219
LL-E19020 1175
LL-F28249-α **614**
LL-F28249-γ 614
LY215890 ..... **1897**
LY215891 ..... **1897**
M43A 1181
M43B 1181
M43D 1181
M43E 1181
M43F 1181
M43G 1181
α-MAPI 1622
β-MAPI 1622
MK 954 131
MK 954 metabolites 131
MS-347a **1775**
MS-347b **1775**
MSD A63A 1175
Mer-N5075A **1622**
Mer-WF3010 ..... **247**, **356**
NA-381 ..... **353**
NA-382 ..... **353**
NA-460 ..... **353**
NA-478 ..... **353**
NG-012 ..... **1101**
NK 130119 1334
NK 86-0279-I 1334
OH-3984 K1 ..... **1520**, **1526**
OH-3984 K2 ..... **1520**, **1526**
PC-766B 866, **972**, **1139**
PD 113270 1503
PD 113271 1503
R1128 A **1055**, **1063**, **1069**
R1128 B **1055**, **1063**, **1069**
R1128 C **1055**, **1063**, **1069**
R1128 D **1055**, **1063**, **1069**
RK-397 ..... **1616**, **1619**
RP71955 ..... **1756**
S-632-A_1 1827
S-632-A_2 1827
S-632-B_1 1827
S-632-B_2 1827
S-632-C **1827**
SB22484 1175
Sch 38518 1109
Sch 39185 1109
Sch 45752 ..... **207**
Sch 45752, dehydro- 207
Sch 47554 ..... **861**
Sch 47555 ..... **861**
Sch 47918 ..... **554**
Sch 49026 ..... **554**
Sch 49027 ..... **554**
Sch 49028 ..... **544**
SM-7338 ..... **827**
TAN-1057 A **606**
TAN-1057 B **606**
TAN-1057 C **606**
TAN-1057 D **606**
TAN-1120 ..... **569**
UCA1064-A **1312**
UCA1064-B **1312**
UCE6 ..... **1173**
UCN-01 ..... **1767**
UTC4B **235**
UK-1 ..... **1089**, **1095**
UK69753 1175

VM55595 ..... **1355**
VM55596 ..... **1355**
VM55597 ..... **1355**
VM55599 ..... **1355**
WB2838 ..... **1327**
WS1279 ..... **858**, **1699**
WS7622A **908**
WS9558 A **1890**
WS9558 B **1890**
WS9761 A **1901**
WS9761 B **1901**
X-14873A 280, 350
X-14889A **275**, **280**
X-14889B **280**
X-14889C **275**, **280**
X-14889D **275**, **280**
XML-1 ..... **141**
XML-2 ..... **141**
XML-3 ..... **141**
XML-4 ..... **141**
XPL-1 ..... **141**
1233A **872**
3097-A **1300**
3097-B_1 ..... **1300**
3097-B_2 ..... **1300**
3097-C_1 ..... **1300**
3097-C_2 ..... **1300**
3097-D_1 ..... **1300**
3097-D_2 ..... **1300**

AUTHOR INDEX

ABE, FUMINORI 712, 914
ABE, KEIICHI 728, 735, 1089
ABE, NAOKI 692, 1530, 1536, 1611, 1672, 1678
ABE, YUKIKO 1055, 1069, 1327, 1890, 1901
ABURAKI, SHIMPEI 598, 631, 1447, 1589
ADACHI, KYOUKO 241
ADACHI, TAKASHI 647, 1163
ADAM, S. 641
ADAMS, RICHARD G. 1279, 1289
AGEMATU, HITOSI 141, 247, 356
AHMED, Z. H. 614
AKAGAWA, HISAYOSHI 1622
AKAGAWA, KIYOKO S. 1406
AKINAGA, SHIRO 1767
AMEMIYA, MASAHIDE 719, 1156, 1390, 1658
ANDERS, UWE 961
ANDERSON, RICHARD K. 331
ANDO, KATSUHIKO 1196, 1312, 1775
ANDO, OSAMU 1116
ANDOH, TSUTOMU 952
ANGEHRN, P. 641
ANKE, HEIDRUN 961, 968
ANZAI, YOJIRO 1
AOKI, MIKA 952
AOYAGI, TAKAAKI 712, 914, 1309, 1471
AOYAMA, TAKAYUKI 712, 914, 1309, 1471
APPELL, KENNETH C. 214
ARDOUREL, MARYVONNE 770
ARENDHOLZ, WOLF-RÜDIGER 961
ARISAWA, MIKIO 11
ARISON, BYRON 1016
ARISON, BYRON S. 1397
ARMAU, ELISE 770
ASAKA, TOSHIFUMI 647, 1163
ASHINO, HIROMI 785
ASHIZAWA, TADASHI 1428
ATKINS, RICHARD J. 362
AYER, STEPHEN W. 869
BAINTON, NIGEL J. 441
BANKS, RHONA M. 1355
BARLOW, GRANT J. 34
BASKER, MICHAEL J. 1279
BAUDART, MARIE-GENEVIÈVE 1458
BELL, F. WILLIAM 1897
BELOFSKY, GILBERT N. 162
BEPPU, TERUHIKO 728, 735
BERDNIKOVA, T. F. 1731
BERETTA, G. 1175
BERGQUIST, KARL-ERIK 961, 968
BERRY, RONALD L. 1082
BERTI, MARISA 668
BETTS, M. J. 992
BISHOP, W. ROBERT 554
BLANCHFLOWER, SIMON E. 1355
BLEIBERG, BONNIE B. 162
BLOUNT, JOHN F. 280
BLUMBACH, JURGEN 1027
BONNER DANIEL P. 526
BORGONOVI, GIORGIO 251
BOROWSKI, EDWARD 1598
BORTOLO, ROSSELLA 255
BOUCHEROT, D. 992
BRAIN, EDWARD G. 1279, 1289
BRANCH, CLIVE L. 1279, 1289
BREINHOLT, JENS 1013, 1101
BRILL, GREGORY M. 39
BROWN, R. 992
BULLOCK, M. W. 614
BUSCH, MICHAEL 1550
BYCROFT BARRIE W. 441
CANDIANI, GIAMPAOLO 668
CANNELL, RICHARD J. P. 1381
CASSANI, GIORGIO 255
CHANDRA, AMITABH 1762
CHAPMAN, PAULINE C. 331
CHATTERJEE, SUGATA 1027
CHEN, GUEH-YUH 1819
CHEN, RANDAL H. 39
CHEN, TOM S. 131, 1397
CHEN, ZUEI-CHING 1819
CHHABRA, SIRI RAM 441
CHIBA, HIROYUKI 247, 356, 1622
CHIBA, SHIGERU 1173
CHIUNG, YIN-MEI 1819
CHONG, CHU 1919
CHU, JENNIFER 275
CHU, M. 861
CHU, MIN 554
CIABATTI, ROMEO 661, 668
CIDARIA, DANTE 251
COLSON, KIMBERLY L. 162
COLWELL, LAWRENCE 1397
COOPER, RAYMOND 214, 545
COSHAM, SUZANNE C. 331
COSTELLO, BENJAMIN J. 486
CRAWFORD, MARK S. 535
CUER, ANNIE 201
DAI, PING 623
DAIKOKU, TOHRU 1034
DAS, P. R. 861
DAVID, LUCIEN 201
DAVIES, G. M. 992
DAVIES, J. SYDNEY 331
DAWSON, MICHAEL J. 1381
DEDINAS, JONAS 214
DELVARE, C. 992
DEMUTH, HELLE 1013
DESIDERIO, JAMES V. 167

Dobashi, Kazuyuki 1622
Doherty, Patrick 1016
Dokić, Slobodan 1239
Domon, Haruki 1834
Doull, Janice L. 869
Dubertret, Cathrine 1756
Dumont, Francis J. 1397
Eguchi, Tadashi 985
Eguchi, Yoko 1629
Endo, Akira 689, 1170, 1303, 1782
Endō, Toyoshige 682
Endou, Kikutarou 478
Enoki, Nobuyasu ... 692, 1530, 1536, 1611, 1672, 1678
Enokita, Ryuzo 1116, 1364, 1503
Etienne, Gilles 770, 1421
Everett, Jeremy R. 1355
Ezaki, Masami 135, 858, 1055
Fabre, Bernard 770, 1421
Faghin, Ramin 698
Fairchild, Craig 1082
Fehlhaber, H.-W. 1027
Fernandes, Prabhavathi B. 526
Fiala, R. R. 614
Franco, Chiristopher M. M. 1027
Freedman, Stephen 623
Freund, Stefan 1126
Frisvad, Jens C. 1101
Fudo, Ryosuke 1319
Fujie, Keiko 908
Fujii, Noboru 1173
Fujii, Shizuka 56
Fujimori, Kumiko 1, 1039
Fujioka, Kohtaro 1319, 1323
Fujisaki, Noriko 1, 1039
Fujita, Takashi 908, 1327
Fujita, Tomoyuki 1819, 1904
Fukagawa, Yasuo 25, 149, 367, 455, 465, 507, 679, 685, 900
Fukasawa, Masatomo 972, 1629
Fukazawa, Hidesuke 1306
Fukui, Akio 972, 1139
Fukui, Masaru 972
Fukusumi, Shoji 606
Funabashi, Yasunori 287, 606, 803
Fung-Tomc, Joan C. 167
Furihata, Kazuo 682, 1319, 1323, 1563
Furihata, Keiko 1323
Furumai, Tamotsu 265, 398, 406, 412, 420, 430, 580, 589, 598, 900, 1306, 1589
Furuya, Kouhei 1648
Furuya, Nobuhiko 777
Ganguli, Bimal N. 1027
Gao, Qi 1082
Gariboldi, Pierluigi 1598
Gentile, Frank 1109
Gillum, Amanda M. 214, 545
Goldstein, Beth P. 661, 668
Gomi, Katsushige 1767
Gomi, Shuichi 310, 531
Gonoi, Tohru 520
Goto, Toshio 858, 1055, 1063, 1069, 1327, 1699, 1890, 1901
Grabley, Susanne 343
Greenstein, Michael 1764
Grinter, Trevor J. 331
Guest, Angela W. 1279, 1289
Guglielmetti, Gianfranco 255
Gullo, V. 207
Gullo, V. P. 861
Gullo, Vincent P. 554, 1109
Gunnarsson, Iji 554
Gustavson, Donald R. 1082
Hale, Richard S. 1381
Hall, Richard M. 1381
Hamada, Masa ... 564, 676, 719, 1156, 1342, 1658, 1772
Hamagishi, Yasutaro 866, 1804
Hamano, Kiyoshi 1116, 1648
Hammann, Peter 343, 523
Hanada, Minoru 25, 900, 1306
Hane, K. 1149
Haneda, Katsuji 749, 756, 1849
Hansske, Fritz 961, 1334
Harada, Nobuyuki 1315
Harada, Setsuo 65, 287, 803
Harimaya, Kenzo 353
Harrington, Frank P. 1279, 1289
Harris, Michael A. 331
Hart, R. 207
Haruna, Fumiyo 1414
Haruyama, Hideyuki 1116, 1648, 1834
Hasegawa, Mamoru 511
Hasegawa, Masami 25, 193, 705, 900
Hasegawa, Masami 785
Hasegawa, T. 1447
Hasegawa, Takaaki 353
Hasegawa, Toshifumi 420, 430, 589, 598, 833, 840, 850, 875, 1447, 1589
Hashimoto, Masashi 858
Hasumi, Keiji 689, 1170, 1303, 1782
Hatanaka, Hiroshi 908
Hatano, Kazuo 71, 88, 99, 120
Hatori, Masami 265, 387, 406, 430, 598, 1804
Hayakawa, Yoichi 1439, 1557, 1563
Hayaoka, Tatsumi 1315
Hayashi, Chigusa 1342
Hayashi, Ken-ichiro 1904
Hayashi, Masahiko 1520, 1526, 1666
Hayashi, Mitsuo 196
Hegde, V. R. 207
Hegde, Vinod R. 1109
Helynck, Gerard 1756
Hemmi Atsuko 1648
Hennequin, Laurent F. 1458
Hermann, T. E. 275

Hida, Tsuneaki 569, 803
Hidaka, Tomomi 1478
Higashi, Kunio 1740
Higashi, Yasuyuki 71, 120
Hill, Preston 380
Hirakata, Yoichi 777
Hirano, Minoru 398, 494, 589, 840, 1246
Hiratani, Tamio 1414
Hochlowski, Jill E. 380
Hoff, Hubert 1625
Höfle, Gerhard 741, 1752
Hook, Derek J. 193, 705
Horan, A. 207
Horan, A. C. 861
Horan, Ann C. 554, 1109
Hori, Makoto 676, 1475
Hori, Seiji 1145
Hori, Yasuhiro 858, 1055, 1063, 1069, 1327, 1699, 1890, 1901
Horie, Yoshikazu 1575
Horinouchi, Sueharu 728, 735
Horton, Derek 1720
Hoshi, H. 1447
Hoshino, Hiroo 1034
Hoshino, Yutaka 705
Hosokawa, Nobuo 676
Hosoya, Tsuyoshi 1643, 1648
Hosoya, Yoshiko 1300
Howells, Alison J. 526
Hu, Shiu-Lok 367
Huang, Stella 1082
Hummel, Rolf-Peter 1126
Humphrey, Patrick E. 34, 374
Hunsmann, Gerhard 1752
Hunter, Pamela A. 486
Igarashi, Masayuki 1843
Iijima, Masatomi 719, 1156
Iimura, Seiji 367, 494, 833, 840, 850, 1447
Iinuma, Hironobu 676, 719, 979, 1020, 1156, 1390, 1658, 1772
Iinuma, Shigemi 569
Ikai, Katsushige 1347
Ikeda, Chiharu 265
Ikeda, Daishiro 531
Ikeda, Hodaka 1908
Ikeda, Ryuji 1034
Ikeda, Takako 719, 1772
Ikeda, Yoko 310, 531
Ikemoto, Masahiko 1139
Ikeno, Souichi 1475
Imae, Kiyoto 833, 840, 850, 1031
Imai, Satoshi 1478
Imai, Shinsuke 1232, 1319, 1323
Imamura, Nobutaka 241
Imanaka, Hiroshi 135
Imokawa, Genji 1520, 1526
Imoto, Masaya 1342, 1716
Ino, Tomio 1550
Inoko, Kohsei 353
Inokoshi, Junji 222, 229
Inoue, Tkaaki 827
Inoue, Toshiaki 1414
Inukai, Masatoshi 1203, 1494, 1503
Irikura, Tomohiro 1575
Ishii, Kenji 1575
Ishii, Takafumi 569
Ishizuka, Masaaki 719, 785, 979, 1020, 1156, 1390, 1658, 1687, 1692
Isoe, Toshiyuki 1439
Isogai, Akira 701
Isono, Fujio 1203
Isono, Kiyoshi 936, 942, 1616, 1619, 1912
Itezono, Yoshiko 11, 18, 1047
Itoh, Taichi 676
Itoh, Tatsuya 1575
Itoi, Kazuko 1116
Iwahi, Tomoyuki 606
Iwai, Yuzuru 749, 756, 762, 1520, 1849, 1854
Iwanaga, Takashi 1782
Iwasaki, Shigeo 1605
Iwasaki, Toshio 1312
Izawa, Takeo 1315
Izumi, Shizue 1788
Jackson, Marianna 34, 374
Jansen, Rolf 1752
Jensen, Georg W. 1101
Jensen, L. 350
Johdo, Osamu 56, 1219, 1758
Jordan, Christopher L. 1897
Joseph, M. 992
Jung, F. 992
Jurkiewicz, Elke 1752
Kadam, Sunil 374
Kagasaki, Takeshi 1503, 1643, 1834
Kageyama, Shunji 1265
Kajita, Shinji 353
Kakeya, Hideaki 1342, 1716
Kakinuma, Katsumi 985, 1916
Kakinuma, Shizuko 412, 420, 430, 598
Kaku, Mitsuo 777
Kakushima, Masatoshi 265, 406, 494, 500, 589, 598, 1589
Kamachi, Hajime 455, 500, 631, 833, 840, 850, 1246, 1447
Kamei, Hideo 631, 833, 840, 850, 921
Kameyama, Toshiyuki 1300
Kamimura, Toshiaki 71, 88, 99, 120, 359
Kamishohara, Masaru 1076, 1439
Kamiyama, Tsutomu 1039, 1047
Kanamaru, Tsuneo 569
Kanaya, Isao 1208, 1214
Kanazawa, Junji 1312
Kaneko, Isao 1494, 1503 1512
Kaneko, Susumu 1252

Kanemitsu, Keiji 1145
Kaneto, Rei 247, 356, 1622
Kaplan, Louis 1397
Karwowski, James P. 34, 374
Kasai, Masaji 1428
Kase, Hiroshi 1481
Kasher, Jeffrey S. 1897
Kashimura, Masato 647, 1163
Kashiwada, Masaru 1095
Katayama, Nozomi 65, 287, 606, 803
Kato, Ikunoshin 1347, 1414
Kato, Shinichiro 884, 892, 1024, 1485, 1633, 1859
Katsu, Kanemasa 1707
Kawabata, Kohji 359
Kawada, Sho-zou 235
Kawai, Hiroyuki 888, 892, 1024, 1076, 1439, 1485, 1638
Kawamoto, Isao 1196, 1775
Kawano, Kimio 367
Kawasaki, Tomiko 1859
Kawatsu, Masaji 1687, 1692
Keicho, Naoto 1406
Kellner, Michael 1334
Kelnerić, Željko 1239
Kettenring, Jürgen 668
Kihara, N. 1149
Kijima-Suda, Isao 1883
Kikuchi, Osamu 985
Kim, Young Kook 1168
Kimball, S. D. 204
Kimura, Chizuko 1570
Kimura, Yasuo 177, 316
King, A. H. 207
King, Arthur H. 1109
Kingston, J. F. 992
Kinoshita, Kazuya 1648
Kinoshita, Masayoshi 1582
Kinoshita, Mitsuhiro 813
Kinoshita, Naoko 719, 1772
Kinoshita, Takeshi 1116, 1203, 1512, 1648, 1834
Kinoshita-Okami, Masako 1648
Kishi, Masanori 749
Kitagawa, Masayuki 1034
Kjaer, Anders 1013
Klohr, Steven E. 1082
Knott, Sarah J. 1289
Kobaru, Seikichi 265, 687, 1804
Kobayashi, Makio 1252
Kobayashi, Masuko 1315
Kobayashi, Yumiko 1912
Kobinata, Kimie 1616, 1619, 1912
Kobrehel, Gabrijela 1239
Koda, S. 1149
Kodama, Kentaro 1834
Koezuka, Yasuhiko 985
Kogler, H. 1027
Kohama, Takafumi 1494, 1503, 1512
Kohl, William L. 34, 374
Kohno, Shigeru 777
Kohsaka, Masanobu 1055, 1063, 1069, 1327, 1890, 1901
Kojima, Asato 1575
Kojima, Fukiko 712, 914, 1309, 1471
Kojima, Ikuo 1622
Kojiri, Katsuhisa 1890, 1901
Kominato, Kaichiro 141
Komiyama, Kanki 1520, 1526, 1666
Komiyama, Nobujiro 412
Komori, Tadaaki 135
Kondo, Shinichi 300, 310, 531, 1883
Kondo, Shoichiro 685
Konetschny-Rapp, Silvia 1334
König, Wilfried A. 1550
Konishi, Masataka 494, 500, 631, 705, 875, 928, 1031, 1246, 1447, 1812
Kono, Motomichi 1428
Koshino, Hiroyuki 1616, 1619, 1912
Kotaki, Hiromichi 11
Koyama, Masao 353
Kreutner, William 554
Kubo, Katsuro 56
Kubota, Tadatoshi 177, 316
Kudo, Takuji 936, 1616
Kudo, Toshiaki 300, 531
Kudoh, Shoji 1406
Kudoh, Tsutomu 11
Kullnig, Rudolph 214
Kullnig, Rudy 545
Kumagai, Hidetoshi 872
Kumagai, Kazuo 972, 1139
Kumazawa, Shigenori 48, 689, 1570
Kume, Masaharu 177, 316
Kuno, Kyoichiro 71, 99
Kunze, Brigitte 1752
Kuroda, Hiroyuki 1414
Kuroda, Kazutoshi 1196
Kurokawa, Takashi 1315
Kusakabe, Hiroo 1912
Kuwahara, Shogo 71, 88, 99, 120
Kuwahara, Toshikazu 11, 18
Kuzuyama, Tomohisa 1478
Kydd, Gwendolyn C. 214, 545
Laatsch, Hartmut 1334
Lam, Y. K. Tony 623
Lange, Lene 1013
Lartey Paul 698
Lasure, Linda L. 535
Lazarevski, Gorjana 1239
Lazhko, E. I. 1731
Leboul, Jean 1756
Lee, Nailin W. 623
Lee, V. G. 204
Lee, Yong-Se 1334
Legendre, Frédéric 770, 1421

Le Monnier, F. 1175
Li, Pei-Ming 1306
Liu, Chao-Min 275, 280, 350
Liu, Mark 275
Loebenberg, David 1109
Lynn, Séan 1381
MacLachlan, William S. 486
Maeda, Akio 1605
Maiese, William M. 1764
Malabarba, Adriano 661, 668
Malkova, I. V. 1731
Marinelli, F. 1175
Martin, Cornel 1550
Maruta, Risa 1312
Mase, Toshiyuki 1475
Masuda, Akira 1034
Masuda, Toru 719, 1658, 1692
Masuma, Rokuro 749, 1849, 1908
Masuyoshi, Shinji 631, 833, 952, 1246, 1447
Matson, James A. 162, 1082
Matsuda, Yuzuru 1196, 1481, 1775
Matsumoto, Fumio 71, 88, 99, 120
Matsumoto, Kazuhiko 196
Matsumoto, Satoru 88
Matsumoto, Shogo 701
Matsumoto, Tetsuya 777
Matsumoto, Yoshimi 71, 99
Matsumura, Haruki 1629
Matsunaga, Toru 1163
Matsuoka, Mayumi 478
Matsuoka, Michiko 884, 892, 1024, 1076, 1485, 1557, 1633
Matsuzaki, Keiichi 1908
Maxwell, Anthony 526
Mayer, Marion 1372
Mayerl, Friedrich 1082
Mayux, Jean-Francois 1756
McAlpine, James B. 39, 374, 380, 698
McCullough, John E. 526
Merrikin, David J. 331
Metzger, Jörg W. 1126
Mikami, Yuzuru 520, 1605
Mikawa, Takashi 48, 1570
Miller, J. R. 207
Mimura, Yayoi 1843
Minagawa, Katsuhiro 1648
Mine, Yasuhiro 71, 88, 99 120
Mitchell, Christina A. 331
Mitsuhashi, Susumu 310
Miura, Yukiko 813
Miyadoh, Shinji 1089
Miyamoto, Ken-ichi 353
Miyaoka, Hiroko 1364, 1494, 1503
Miyauchi, Michiyo 1788
Mizuno, Satoshi 1306, 1622
Mochizuki, Junichiro 884, 892, 1024, 1439, 1485, 1633, 1859
Monaghan, R. L. 131
Moore, Richard 214
Mori, Keiji 1883
Moriguchi, Koichi 1139
Morimoto, Makoto 1428
Morimoto, Shigeo 647, 1163
Morisaki, Naoko 1605
Morisawa, Yasuhiro 1252
Morita, Ikuo 785
Moriyama, Toshio 631, 928
Motokawa, Kiyoshi 177, 316
Mouslim, Jamal 201
Mullally, Mark M. 380
Muller, Mark T. 526
Munekata, Masanobu 692, 1530, 1536, 1611, 1672, 1678
Murai, Hidetsugu 908
Murakawa, Shigeo 689
Murao, Sawao 141
Muraoka, Yasuhiko 712, 914, 1471
Murata, Shinji 679, 687, 850
Murofushi, Sakae 196
Muroi, Masayuki 569
Murota, Sei-itsu 785
Musza, Laszlo L. 545
Muto, Naoki 196
Nabeshima, Shigeyasu 972, 1139
Nagai, Hiroshi 520
Nagamitsu, Tohru 762, 1178
Naganawa, Hiroshi 564, 676, 712, 914, 979, 1020, 1219, 1300, 1347, 1471, 1658, 1716, 1772, 1843
Nagarajan, R. 1181
Nagashima, Ken 1481
Nair, Muraleedharan G. 1762
Naito, Satoru 1252
Nakagawa, Akira 229
Nakagawa, Keiko 518
Nakagawa, Masahira 1819, 1904
Nakagawa, Taizo 1315
Nakajima, Hidenori 1327, 1901
Nakajima, Mutsuo 1116
Nakajima, Shigeru 1799, 1894
Nakajima, Tasuku 149
Nakajima, Yoshinori 478
Nakakita, Yasukazu 692, 1530, 1536, 1611, 1672, 1678
Nakamoto, Shoji 120
Nakamura, Kiyoto 1883
Nakamura, Takehiko 692, 1530, 1536, 1611, 1672, 1678
Nakamura, Takemichi 1203, 1512
Nakanishi, Satoshi 1481, 1775
Nakanishi, Tomoko 1788
Nakano, Hirofumi 235
Nakano, Masao 177
Nakashimizu, Hiromu 177, 316

Nakata, Masaya 813, 1919
Nakayama, Mitsuru 1819, 1827, 1904
Nakayama, Noboru 11, 18, 1047
Namiki, Y. 1149
Nanba, Toshihiko 1252
Naoki, Hideo 735
Narita, Yukio 420, 687, 1589
Naruse, Nobuaki 679, 685, 866, 1804, 1812
Natsugari, Hideaki 803
Nayano, Hirofumi 1173
Neale, Jane E. 1279
Nielsen, Ruby I. 1101
Nihei, Yoshimi 25, 900, 1031
Nihei, Yumi 1306
Nishi, Toshiyuki 1740
Nishida, Hiroshi 56, 141, 247, 356, 1622, 1758
Nishida, Hiroyuki 1168
Nishijima, Miyuki 241
Nishimura, Makoto 1069
Nishimura, Yoshio 300, 1883
Nishio, Maki 193, 455, 494, 1306, 1447
Nishioka, Hiroshi 564
Nishiyama, Yuji 921
Nishiyama, Yukihiro 1034
Niwata, Yoshihisa 1919
Noble, David 1381
Noguchi, Tadashi 1232
Nomura, Kayo 1767
Nozaki, Hiroshi 1819
Nozaki, Yukimasa 65, 569
Numata, Kei-ichi 149, 455, 685
O'Sullivan, Joseph 526
Oberer, Lukas 1550
Odagawa, Atsuo 884, 892, 1076, 1439, 1633
Ogasawara, Masami 866
Ogawa, Atsuko 1347
Ogawa, Haruo 1170
Ogawa, Kiyoshi 196
Ohki, Hidenori 359
Ohkuma, Hiroaki 455, 494, 705
Ohkusa, Noriyuki 367, 687
Ohnuma, Takeshi 631
Ohshima, Shoichi 1039
Ohta, Shin-ichi 494
Ohta, Toshio 511
Ohtsuka, Tatsuo 1, 11, 18
Oi, Susumu 1089
Oikawa, Tsutomu 785
Oishi, Eiko 1196
Oka, Masahisa 367, 465, 875, 1031, 1812
Okabe, Masami 1312, 1767
Okada, Yoshio 1699
Okami, Yoshiro 1300
Okamoto, Masanori 908
Okamoto, Rokuro 56, 141, 247, 356, 1219, 1622, 1758
Okazaki, Takao 1116, 1364, 1503
Oki, Toshikazu 25, 149, 193, 265, 367, 387, 398, 406, 412, 420, 430, 455, 465, 494, 500, 507, 580, 589, 598, 631, 679, 685, 687, 705, 866, 875, 900, 921, 928, 952, 1031, 1246, 1306, 1447, 1589, 1804, 1812
Okita, Takaaki 833, 840, 850
Okonogi, Kenji 65
Okuda, Shinya 359
Okuda, Takao 1629
Okuda, Toru 1
Okuhara, Masakuni 858, 908, 1055, 1063, 1069, 1327, 1699, 1788, 1890, 1901
Okura, Akira 1799
Okuyama, Satsuki 500, 1246, 1447
Olivier, A. 992
Olsen, Carl E. 1101
Olsufyeva, E. N. 1731
Ōmura, Satoshi 222, 229, 749, 756, 762, 872, 1168, 1178, 1208, 1214, 1520, 1526, 1666, 1849, 1854, 1908
Ono, Hideo 65, 287, 606
Onuma, Hiroki 1196
Osada, Hiroyuki 936, 942, 1616, 1619, 1912
Osburne, Marcia S. 1764
Oshima, Shoichi 1
Osono, Michiyo 719, 1156, 1687, 1692
Ōtake, Noboru 985, 1439
Otani, Toshio 791, 1475, 1666, 1827
Otoguro, Kazuhiko 1666
Pagano, Tom 698
Pallanza, Rosa 668
Palleroni, N. 275
Park, Jong Koo 1170, 1303
Parker, William L. 526
Patel, M. G. 207, 861
Patel, Mahesh G. 554, 1109
Pavlov, A. Y. 1731
Pawlak, Jan 1598
Pearson, Michael J. 1279, 1289
Pedersen, Christian 1013
Pessara, Ulrich 1334
Peter, Heinrich H. 294
Petersen, Frank 1126
Petersen, P. J. 1731
Philipps, Siegrid 343, 1625
Pirali, Giorgio 251
Pirnik, Dolores M. 1082
Pittam, J. D. 992
Plattner, Jake 698
Poddig, Jennifer B. 374
Ponsford, Roger J. 331, 362
Potterat, Olivier 346
Preobrazhenskaya, M. N. 1731
Pridzun, Lutz 1752
Priebe, Waldemar 1720
Puar, M. S. 207, 861, 1109

PUAR, MOHINDAR S. 554
RAETHER, WOLFGANG 523
RAO, VANGA S. 167
RASMUSSEN, RONALD R. 39, 374
RATCLIFFE, RONALD W. 1866
READING, CHRISTOPHER 1355
REICHENBACH, HANS 741, 1752
RHO, MUN-CHUAL 1526
RITZAU, MICHAEL 1625
ROGGO, BARBARA E. 294
ROSE, WILLIAM C. 1082
ROSSER, MARY 875
ROWLANDS, ROBERT T. 535
SAITO, AKIO 1252
SAITO, SEIICHI 1034
SAITOH, KYOICHIRO 265, 387, 398, 406, 412, 420, 430, 580
SAITOH, YUTAKA 235, 1173, 1428
SAKAI, FUMIHIKO 1699
SAKAI, KAORU 689, 1170
SAKAI, KAZUYA 1622
SAKAIDA, YOSHIHARU 1203, 1503
SAKAMOTO, HIROSHI 71, 88, 99, 120
SAKAMOTO, KAZUTOSHI 1788
SAKANE, KAZUO 359
SAKATA, NOBUO 1475
SAKUDA, SHOHEI 1582
SALMOND, GEORGE P. C. 441
SALVATORE, MICHAEL 623
SANO, HIROSHI 235, 241
SANO, TAKASHI 1
SASSE, FLORENZ 741
SATO, AKIRA 1116
SATO, KAZUO 518
SATO, KIYOSHI 1843
SATO, MAKOTO 1740
SATO, YOSHIKAZU 48
SATOH, AKIRA 1503
SATOH, TOMOKO 1039, 1047
SAWA, RYUICHI 979, 1020, 1772
SAWA, TSUTOMU 564, 1219, 1342, 1772
SAWADA, YOSUKE 149, 193, 367, 387, 455, 507, 679, 687, 705, 875
SCHERR, MICHAEL H. 374
SCHEUER, WERNER 1334
SCHULMAN, MARVIN 1016
SCHWARTZ, J. 861
SCOTTI, ROBERTO 661, 668
SEGAWA, TOSHIAKI 1666
SELLO, LILLIAN H. 280
SELVA, E. 1175
SETO, HARUO 11, 18, 1232, 1319, 1323, 1439, 1478, 1557, 1563
SHAFIEE, ALI 1397
SHANKS, COLIN T. 486
SHIBAHARA, SEIJI 531
SHIBAMOTO, NORIO 141, 247, 356, 1622
SHIBATA, KOZO 1089, 1095
SHIGEMATSU, NOBUHARU 135, 908, 1063, 1788, 1890, 1901
SHIMADA, JINGORO 1145
SHIMADA, NOBUYOSHI 1034
SHIMAMURA, MARIKO 785
SHIMMA, NOBUO 11, 18
SHIMOTOHNO, KUMIKO W. 682
SHIN, TAKASHI 141
SHIN-YA, KAZUO 1557, 1563
SHINDO, KAZUTOSHI 884, 888, 892, 985, 1024, 1076, 1485, 1633, 1638
SHINGUH, YASUHIKO 908
SHINJI, MASUYOSHI 685
SHINOHARA, CHIKARA 1782
SHINOSE, MAYUMI 1208, 1520
SHIOMI, KAZURO 229, 1214, 1666
SHIOZAWA, HIDEYUKI 1834
SHIRAHATA, KUNIKATSU 1428
SHIRAISHI, AKIO 1494, 1503, 1512
SIEGEL, D. 350
SINGH, AMRIT K. 869
SKAGGS, THERESEA G. 1897
SMITH, ALISON J. 623
SMITH, CAROL F. 331
SO, L. 131
SOMENO, TETSUYA 979, 1020, 1156, 1390, 1658
SOWIŃSKI, PAWEL 1598
SPANTON, STEPHEN G. 380
SPERA, SILVIA 255
STACHULSKI, ANDREW V. 331, 362
STADLER, MARC 961, 968
STEAD, PAUL 441
STEINMETZ, HEINRICH 741
STERNER, OLOV 961, 968
STEVENSON, R. 992
STEWART, GORDON S. A. B. 441
STOCKINGER, HUBERTUS 1334
SUDA, HIROYUKI 1799, 1894
SUDO, KATSUICHI 569
SUGAWARA, KANETSU 1883
SUGAWARA, KOKO 921, 928, 952
SUGAWARA, MASARU 367
SUMITA, YOSHIHIRO 1629
SUMMERILL, ROSALIE S. 526
SUNAGAWA, MAKOTO 827, 1629
SUNAZUKA, TOSHIAKI 762, 1178
SUZUKI, AKINORI 701
SUZUKI, HAJIME 1799
SUZUKI, KATSUHIRO 1315
SUZUKI, KIYOSHI 193, 265, 398, 412, 420, 430, 589, 705, 900
SUZUMURA, YASUKO 749
SZNAIDMAN, MARCOS K. 1720
TABATA, KEIICHI 1648
TABATA, NORIKO 749, 756, 762, 1178, 1849, 1854
TABET, J. C. 201

Tachikawa, Kiyoshi 689
Tada, Toshiharu 1788
Takahashi, Atsushi 1843
Takahashi, Isami 1312
Takahashi, Masaaki 1643
Takahashi, Shuji 1116, 1203, 1364, 1643, 1834
Takahashi, Yōko 222, 756, 1208, 1520, 1666
Takahashi, Yoshikazu 564, 1716, 1772
Takamatsu, Satoshi 1520, 1526
Takamatsu, Yasuyuki 1116
Takase, Shigehiro 1063, 1327, 1901
Takemura, Makoto 1740
Takeo, suguru 1672
Takesako, Kazutoh 1347, 1414
Takeshima, Hideo 222, 229
Takeuchi, Tomio 56, 300, 310, 531, 564, 676, 712, 719, 785, 914, 979 1020, 1156, 1219, 1300, 1309, 1342, 1390, 1471, 1658, 1687, 1692, 1716, 1772, 1883, 1843
Takeuchi, Yutaka 827
Tamai, Tetsuro 813
Tamamura, Tsuyoshi 1843
Tamaoka, Masami 850
Tamaoki, Tatsuya 1312
Tamura, Atsushi 310, 531
Tanaka, Asako 1034
Tanaka, Haruo 872, 1208, 1214. 1520, 1526, 1908
Tanaka, Keiji 1364
Tanaka, Ken 698
Tanaka, Miho 858, 1699
Tanaka, S. Ken 34
Tanaka, Shin 1139
Tanaka, Yoshitake 1208, 1214
Taniguchi, Hirofumi 478
Taniguchi, Makoto 1089, 1095
Tanimori, Shinji 1904
Tanzawa, Kazuhiko 1648
Tateda, Kazuhiro 777
Tatee, Tochiro 712, 1309
Tatsuta, Kuniaki 813, 1919
Tawara, Shuichi 71, 88, 99, 120
Taya, Kiyoshi 972
Taylor, Andrew W. 486
Taylor, Dean P. 535
Taylor, Nicholas L. 1381
Tenmyo, Osamu 367, 580, 875, 1804
Ternansky, Robert J. 1897
Testa, R. T. 1731
Tetsuka, Yasuyuki 1843
Then, R. 641
Thibault, Pierre 869
Thiericke, Ralf 343, 1372
Thorogood, Deborah L. 1762
Tiraby, Gérard 770, 1421
Toda, Soichiro 455, 875, 928
Todaro, Louis 280
Toki, Shinichiro 1481
Tomita, Hirofumi 1570
Tomita, Kenkichi 1883
Tomita, Koji 387, 705, 921, 1804
Tomoda, Hiroshi 749, 756, 762, 872, 1168, 1178, 1849, 1854
Tomono, Kazunori 777
Tone, Hiroshi 1219
Torikata, Akio 518, 1494, 1503
Toriya, Minoru 196
Toshima, Kazunobu 1919
Toyama, Toshimitsu 1252
Troupe, Nelson 280
Truumees, Imbi 554
Tsubotani, Shigetoshi 287, 803
Tsuchida, Toshio 141, 1772
Tsuchiya, Manami 1252
Tsuchiya, Tsutomu 1265
Tsuda, Yuko 1699
Tsujii, Eisaku 1788
Tsukamoto, Yoshihisa 518
Tsunakawa, Mitsuaki 687
Tsuno, Takashi 387, 406, 420, 507, 875
Tsuruo, Takashi 1439
Tuji, Yukari 1173
Tuttle, J. G. 204
Tymiak, A. A. 204
Ubukata, Makoto 936, 942
Uchida, Hideaki 692, 1530, 1536, 1611, 1672, 1678
Uchida, Katsuhisa 1414
Uchida, Takeshi 1439
Ueda, Hirotsugu 858, 1699
Uehara, Yoshimasa 1306
Ueki, Masashi 1089, 1095
Ueki, Tomokazu 149, 455, 465, 507, 952
Ueno, Keiichi 1089
Ueno, Mitsuhiro 719, 979, 1020, 1156, 1390, 1658
Ueno, Yoshio 1575
Umeda, Yoshihisa 1347
Umehara, Kazuyoshi 135
Umezawa, Kazuo 564, 1342, 1716
Umezawa, Sumio 1265
Umezawa, Yoji 1883
Umino, Takayuki 1039, 1047
Uosaki, Youichi 235, 1173, 1196
Urakawa, Akira 1827
Urata, Tetsuro 1859
Urushibata, Ikumi 701
Usui, Takayuki 531
Usui, Toshiaki 777
Utsui, Yukio 1834
Uzawa, Jun 942
Van Der Pyl Didier 222, 229
Varela, Oscar 1720
Velours, Jean 1421
Verétesy, Laszlo 523

Vijayakumar, E. K. S. 1027
Volkmann Corinna 346
Wagman, G. H. 1109
Wakai, Yoshimi 88
Wakusawa, Shinya 353
Wang, T. 204
Watanabe, Junko 1, 1039
Watanabe, Kimihiro 1
Watanabe, Nao-aki 1707
Watanabe, Yoshiaki 647, 1163
Watanabe, Yuji 71, 88, 99
Weckesser, Jürgen 1550
Wells, J. Scott 526
Westley, J. W. 350
Westley, John W. 275, 280
White, R. 131
Whittern, David N. 39, 380
Wildonger, Kenneth J. 1866
Williams Paul 441
Wink, Joachim 343
Wolf, Gerhard 1334
Wong, Sui-Ming 214, 545
Woodruff, H. Boyd 756
Xaio, Jin-zhong 48, 1570
Yaginuma, Satoshi 196
Yamada, Koji 1196
Yamada, Yasuhiro 1582
Yamaga, Hiroshi 1629
Yamagishi, Yuji 884, 888, 1485, 1633, 1638
Yamaguchi, Hideyo 1414
Yamaguchi, Isamu 1912
Yamaguchi, Keizo 777
Yamamoto, Chii 1306
Yamamoto, Haruaki 25, 367, 412, 420, 507, 589, 679, 685, 921, 1589
Yamamoto, Satoshi 265, 580, 589, 685, 875, 900
Yamanaka, Shigeru 1319
Yamasaki, Tetsuro 1031
Yamashita, Haruhiro 631
Yamashita, Michio 135, 908, 1788
Yamashita, Takashi 1687, 1692
Yamashita, Yoshinori 1173
Yamashita, Yuko 1039
Yamauchi, Noriaki 1916
Yamazaki, Katsuhisa 1156
Yamazaki, Tadao 712, 1309
Yang, Hong 229, 1666
Yarborough, R. 207, 861
Yarbrough, George G. 535
Yasuda, T. 1149
Yasumoto, Takeshi 520
Yazawa, Katsukiyo 520, 1605
Yokose, Kazuteru 11, 18, 1039, 1047
Yoshida, Ken-ichiro 1827
Yoshida, Mayumi 1196, 1312
Yoshida, Minoru 728, 735
Yoshikawa, Nobuji 48, 689, 1570
Yoshikawa, Yoshie 1347, 1414
Yoshimoto, Akihiro 56, 1219, 1758
Yoshimura, Atsuko 866
Yoshinaga, Ihomi 1390
Yoshioka, Takeo 141, 247, 356
Yotsumoto, Hideki 1406
Zähner, Hans 346, 1126, 1625
Zeeck, Axel 343, 346, 1625
Zhao, Wenjie 1471
Zhou, Ze-Yang 1582
Zink, Deborah 1016
Zink, Deborah L. 623
Zomaya, Iskander I. 1279, 1289